THE

MEDICAL NEWS.

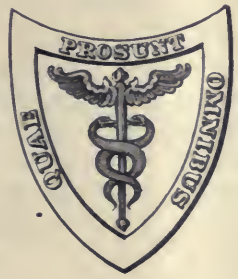
A Weekly Medical Journal.

EDITED BY

J. RIDDLE GOFFE, PH.B., M.D.

VOLUME LXXIII.

JULY—DECEMBER, 1898.



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THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXXIII. NEW YORK, SATURDAY, JULY 2, 1898. NO. 1.

ORIGINAL ARTICLES.

THE TREATMENT OF URICACIDEMIA.[1]

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URICACIDEMIA is a condition the manifestations of which are so multiform that the consideration of the treatment of all its protean aspects is obviously beyond the limits of a short paper. It has already been demonstrated that every one of the acute or mature manifestations of this diathesis is but the expression in an individual of his peculiar reaction to the circulating acid excess or of the vulnerability of some one of his tissues or organs. This vulnerability of organ or tissue may be an inheritance. Whether a man develops arteriosclerosis from this irritant depends on the stuff his arteries are made of, not on chance. Heredity would determine whether the nerves had to bear the brunt of the burden, or the liver, or the kidneys, or the joints, or the muscles. But in all cases there is the underlying common condition, which must be overcome, else there is no such thing as a permanent cure. In this discussion, therefore, the problem which I set myself is the proper management of the daily lives of that large class of individuals who present any of the ills arising from imperfect metabolism and deficient excretion of nitrogenous waste.

It must first be pointed out that the individuals making up this class do not belong to a group that can be characterized by common points of resemblance. They may be plethoric, fat, and hearty; they may be anemic, thin, and sour, like the "lean and hungry Cassius," or they may be athletic in figure, strong in body and mind, passionate, and high livers. It is because of this diversity that the treatment of this condition cannot be reduced to rules that are hard and fast, a sort of "cut-and-dried" treatment that once learned is always available. It must be because of this diversity and the tendency in writing to confine one's thoughts to a particular class of cases that we observe such apparent contradictions in the recommendations of the leading authors upon this subject. The underlying condition is an increase of the uric-acid ratio to urates, so that free uric acid is present in excess in the blood or is deposited in the tissues. It is caused by a too abundant supply of uric acid in the food taken, or by an excessive formation of uric acid within the body, or by a changed condition of the blood, making impossible the solution of the normal amount of uric acid, and so interfering with its proper excretion. The indications then are to eliminate the excess, and to prevent its formation. As the excess is caused, first, by the too free consumption of foods containing uric acid; secondly, of foodstuffs from which it is made; and, thirdly, of such articles of consumption as by their nature give rise to imperfect digestion and to fermentation and acidity, thus diminishing the normal alkalescence of the blood, and interfering with the perfect elimination through natural channels of the nitrogenous waste material, the regulation of the diet is, therefore, clearly proven to be of the utmost importance. This is agreed to by all. However, if one should take a list of articles commonly used for the diet of man, and strike from it the foods interdicted by eight or a dozen accredited authorities, one would have in the end hardly water enough to keep the blood fluid, and almost nothing to eat. I do not propose to analyze the dietaries of various authorities, but give those which in my experience have proved of most value, easiest inculcated, and easiest adhered to.

There are a few general directions given to all, fat or lean, weak or strong, plethoric or anemic. I exclude from the dietary of all lithemics, all soup stocks, broths, and meat extracts, because they contain all the waste in the animal tissues from which they are made, and little else, and can but add embarrassment to eliminating organs already overburdened. I exclude sweetbreads, kidneys, liver, and *pâté de foie gras*, because they contain excessive amounts of urates, and greatly increase the output of uric acid. I exclude all acids and acid fruits, and include in this exclusion all beers and wines because of their acidity, for the reason that acid ingesta, even though they may combine with alkalies to form salts, do so at the expense of a complete chemical metabolism of nitrogenous waste, and, furthermore, because in the lithemic, they often disagree and disturb digestion. If the uricacidemia is pronounced, I exclude tea, coffee, chocolate, and cocoa, because of the close chemical resemblance of caffein and theobromin to uric acid, and because, clinically, I have found patients with marked symptoms do better without them. Another direction

[1] Read before the Syracuse Academy of Medicine.

that is applicable to all, save in the beginning of the treatment of the plethoric obese, is to use pure drinking-water in quantities larger than ordinarily consumed, but within the average physiological limit of five pints in every twenty-four hours. The water is to be drunk hot, a half hour before each meal and at bedtime, sipping it leisurely, if constipation be the natural habit; or cool, though never iced, commencing an hour and a half after eating, and continuing its use at intervals up to within a half-hour of the next meal, if the bowels are naturally inclined to free daily movements. These are the only general laws that I have found of undoubted benefit in the diet of all lithemic patients, and I dare say that with these my experience may not coincide with that of others of equal opportunities for careful observation.

The next question of importance is, To what extent can nitrogenous foods, meat, fish, eggs, milk, cheese, and the legumins be allowed, and what selections shall be made and why? A certain proportion of nitrogenous food is an absolute necessity for perfect nutrition. This class of foods is the only class that, with water, is sufficient for the perfect nutrition of man. Nansen, in his "Farthest North," describes most graphically his long Arctic winter in a cramped camp after he had left the "Fram." The sole article of food was bear's meat, and he asserts that after many months of this diet they experienced absolutely no inconvenience from its use, and had little repugnance for it and little longing for other food. Those who saw him and admired his physique could have little question but that he had been perfectly nourished. It would be interesting to know in detail the effect upon his organs, particularly upon his heart, his arteries, and his kidneys of this prolonged use of a purely meat diet. The flesh of animals is the chief source of nitrogenous foods. It is more easy of digestion than are the legumins or grains that contain nitrogen, and for many, more easy of complete elaboration than are milk and cheese. It has one great disadvantage in the treatment of the lithemic; it contains in the intercellular lymph-spaces the nitrogenous waste of the animal from which it has been derived. In using it, therefore, one is sure to get not only the albuminoids of the tissues, but preformed chemical bodies representing the waste of the tissues in the animal itself. This disadvantage is often overbalanced by the easier digestion of the tissues, so that, in certain cases, particularly in the dyspeptic anemics and in those having an idiosyncrasy for milk, a free use of animal food is followed by better results than attend the attempt to go without it. With those presenting a normal blood-count and a normal percentage of hemoglobin, with marked uric-acidemia, and without iodiosyncrasy against milk, it is best to exclude all butcher's meat, fish, and game. In such, milk, cheese, and eggs, which contain no uric acid or other waste products, and mushrooms, the grains and legumins, so prepared as to be easy of digestion, should entirely take the place of meats, until all uric-acid excess has been removed. Then, and in cases where the symptoms are less marked, a moderate amount of fish and meat may be allowed, say once daily.

The selection of the particular variety of meat and fish has always been considered a matter of considerable importance. There has been prevalent, and still holds, a notion that the white meats are less injurious than the red, that fish is allowable when meats are to be excluded, and that the flesh of immature animals is more injurious than that of the fully developed species. I have endeavored to ascertain the basis of this opinion. It is certainly not based upon scientific analysis of the foods mentioned, and must be, therefore, the results of clinical observation. It cannot be satisfactorily demonstrated that white meat contains less uric acid than red meat, or that the meat of young animals is more heavily charged with the products of nitrogenous waste than that of the mature species of the same kind. It comes then to the question of digestibility, and that depends as much upon the condition of the flesh of the particular animal under consideration, as upon its species or age. The fiber of the breast of the chicken, the partridge, and of hares is short and easy of disintegration, if in perfect condition. In England the Southdown mutton, grown only for its flesh, is the perfection of its kind. We cannot say the same of mutton in America. In Germany beef is not the favorite dish, and is never served except boiled. In our country, Western beef is probably the most perfect specimen of flesh food that can be found in the world, unless one excepts the English mutton. Ham, so largely prescribed by our German *confrères*, either raw or boiled and sliced cold, is seldom recommended by American or English physicians, though worthy of our consideration. Veal, spring lamb, and spring chickens contain a much larger proportion of water, and to many stomachs are difficult of digestion, and to some distinctly cathartic, while to others they are acceptable. Among fishes it is probably true that the color of the flesh has little to do with its acceptability as an article of diet. But, on the other hand, it is undoubtedly a fact that the fishes with white meat are generally easier of digestion than those which are darker, not because of their color, but because the fibers are more easily disintegrated and

so more digested. It would thus seem that the selection of the particular variety of meat or fish to be allowed should be left largely to the taste and experience of the patient. However this may be, it is sure that there can be no question as to the exclusion of the process of cooking flesh in fat, and of all made dishes of meats previously cooked, except plain hash, because of the enormous increase in the work of the organs of digestion inevitably involved.

In those cases where it seems necessary to exclude all meats, the nitrogenous element of food is best supplied by milk and eggs. Commercial milk is an unnatural product. By centuries of training man has produced an animal that, with enforced limitation of exercise, with forced feeding, and with artificial imitation of the process of suckling, is now capable of producing a lactiferous fluid the whole year round. The conditions of her unnatural existence are the cause of the diseases that, mostly from a commercial standpoint, are attracting the attention of the State boards of health everywhere. Pure milk, from a healthy cow, is ideal food for a calf, and, because man is a mammal, and other mammals are not so tractable, the milk of the cow is the selected representative of this class of foods. Milk from healthy cows is alone sufficient for the nourishment of man. It is food and drink. But I need not dilate upon this subject, for the experience of all here will illustrate the fact that the lithemic patient has, in numerous instances, not only lived, but thrived and worked and gotten rid of his diseases on a purely milk diet. Some cannot take it. It is unfortunate for them, but, being one of the unfortunates, I find there are compensations. Right here I may be permitted to say that physicians sometimes err in not studying the personal dietetic idiosyncrasies of those who seek their advice. A gentleman once said to me, "I have received such different advice from reputable doctors on the matter of diet, that I have just about concluded that doctors cut out things they can't eat themselves, and advise what their own palates approve." Is it not well to remember that there is an underlying truth in that very old saying, "What is one man's meat is another man's poison"?

It has often seemed that sufficient heed is not paid by the medical adviser to the emphatic protests of a patient against certain articles of diet with which he has had repeated unfavorable experiences. Eggs, raw or lightly boiled, furnish nitrogenous food, generally easy of digestion and of assimilation. To a few persons, eggs are distinctly poisonous. When cooked, the yolk is easier of digestion than the white. It is difficult to get an egg properly cooked. Egg albumen coagulates at 150° F. It is easiest digested raw. When cooked for delicate stomachs, it should either be allowed to stand on the table in water that has boiled, and the temperature of which is just under the boiling-point, or it should be broken into a cup and cooked in a water bath, with constant stirring, until the white just begins to cloud. If cooked more, it should be boiled for a half hour. I have frequently seen an egg so cooked digested with greater ease than one so-called soft-boiled. In those few cases where the entire egg cannot be digested, the whites can always be taken raw in milk or water or fruit-juices, in large numbers daily, without influencing unfavorably the digestive process.

Whether sugar should be allowed or not depends on individual peculiarities. From the obese, whether plethoric or anemic, it should be entirely withdrawn, and its use supplanted by saccharin. In the thin, if it is digested as sugar, and does not cause fermentation, its use in fair amounts is permissible and to be encouraged. Confectionery is so seductive, and the best of it so impure, that any but the simplest forms of pure sugar candies should never be allowed. The malted grains and the malted foods serve an excellent purpose with those in whom starch digestion is imperfect and sugars cause fermentation. The dietary of the lithemic includes all the grains that are capable of easy digestion—and each stomach is a law to itself in this particular—all vegetables that are not acid and not provocative of indigestion, and all sweet and subacid fresh fruits, raw or cooked. The popularity of vegetables as food depends very largely on the cook. There are very few vegetables cooked by simply boiling in hot water, after the style of the English, that anyone would eat, except as a matter of duty. The French and the Germans, on the other hand, bestow infinite pains on the preparation and cooking of vegetables, and serve dishes that are a surprise and a delight to those who have had no experience with the possibilities of vegetables. The digestibility of vegetables commonly excluded from the dietary of all save the most robust in active out-of-door employment can also be compassed by skill in the cook. That this is not done the menu of any first-class establishment shows. There, the chéf pays his careful attention to the soups, the meats, and the *entreés*, and a first-class pastry cook attends to the desserts, while the vegetables are relegated to a second or third-rate helper. Our habits of eating copy closely those of the English. We are expert judges of meats, and are heavy meat eaters, with an extra "sweet tooth" of our own. We know just how to cook meats, but we have much to learn of the value of vegetables as food and of their possible attractions to the palate. With the exception of those vegetables that contain oxalic acid, *viz.*, to-

matoes, rhubarb, sorrel (which Americans seldom use), and asparagus, there are none which need be excluded from the diet of the lithemic, unless for reasons of personal inability to digest them easily, but, as indicated, this objection can, in a large measure, be overcome by skill in cooking.

The liberal use of fruits should be encouraged. In those in whom the diathesis is little pronounced, even acid fruits may be allowed in moderate quantities, while the sweet and subacid fruits should be freely used. If the constitutional manifestations are marked, such fruits as strawberries, sour cherries, currants, gooseberries, cranberries, lemons, limes, and grape fruit are better omitted, while in the preparation of subacid fruits Fothergill's suggestion of stewing with a little soda should be observed. The banana is a fruit of peculiar value when it can be obtained mature and ripe. It contains seven per cent. of nitrogenous matter, and, when ripe, the starch and sugars are in such condition as to be very easy of digestion. The banana is the only fruit from which a palatable flour can be made which can be used by those (even young children) of especially weak digestion. There remains a word to be said about nuts. They are are palatable, and just now fashionable. They are certainly of considerable value as food, and are easily digested by some persons. The salted almond is probably the best representative of this class, while the vulgar peanut, roasted, makes a very good second. Very few who eat nuts liberally class them as foods, and therein lies the mistake. They eat them as a pastime, as children in the country eat popcorn and apples. If individual experience proves that nuts are easily digested, and if they are taken as a recognized part of a meal, there is no scientific reason for forbidding their use. Their variety is great, but they differ chiefly in flavor and in the relative proportion of fats and starch. Each palate is its own best guide in their selection, but any variety chosen should be fresh and sweet. In the diet of children, especially of lithemic parents, the same care in the selection of food must be made as with their elders. I have seen the too free use of meat extracts and juices followed by symptoms as pronounced and distressing in children as in adults, and have recorded as signal successes from the regulation of their dietary as in any case yet observed.

Of even more importance than the quality of the food is the regulation of the amount taken. Most people overeat. Except in the anemic and feeble, the limitation of the total amount of food taken is necessary, and with them it must be regulated. In reforming a diet it is not wise to make radical changes suddenly. If the heavy feeder be put on light diet and little of it, from his standpoint, he will soon rebel and return to his groaning table. Even Haig recommended that advantage of the cooler months be taken in reforming the dietetic habits of many patients.

Next to diet, the question of exercise is the most important. If the person with the gouty diathesis could take sufficient exercise to get up a good perspiration, and so aid the elimination of the waste products through the skin every day in the year, it is probable that no acute manifestations of his diathesis would ever supervene. How to get our patients of this class to exercise has been a difficult problem to solve, but with the advent of the bicycle and its fascinations the problem has been greatly simplified. Exercise for health's sake is always stupid, but a spin on a wheel, or an athletic game, lawn tennis, golf, or baseball, or an outing with rod, gun, or camera, or a half-hour's fun with an elastic exerciser, has attractions that the physician should avail himself of in prescribing. When the enfeeblement is too great for active physical exercises, massage and Swedish movements must be resorted to, and are capable of doing the greatest amount of good. The lithemic should be taught that a daily bath is a necessity, and a weekly Turkish bath more than a luxury. A hot air, steam, or water bath, once or more a week, does more than cleanse the skin; it stimulates one of the greatest organs of elimination and actually rids the system of an enormous amount of nitrogenous waste, thus relieving the kidneys of a proportion of their work, already too burdensome. It stimulates the nervous centers, and facilitates the process of metabolism in the tissues. With attention to diet, exercise, and bathing, the lithemic may so regulate his life as to be free from all acute manifestations of his inherited or acquired condition. But it must become a habit, and must be continued as long as his environment and innate tendencies remain the same, else he will certainly relapse into his former condition, and pay the penalty in an enfeebled, painful, and crippled existence.

As an addition to the hygienic measures referred to, I am in the habit of recommending the habitual daily use of some alkali. If there is an absence of all symptoms, and if the urine shows a normal uric-acid ratio, it is necessary simply to drink a glass of water at bedtime, made slightly alkaline with citrate or bicarbonate of potash, five to ten grains, or of bicarbonate of soda. Lithia was formerly supposed to be more powerful as a solvent, but the claim has not been capable of demonstration, and Haig says it has no value in rendering the blood more alkalin. He claims to demonstrate that it does not unite with

uric acid, making the soluble urate of lithia, but with other acids, the salts of which would make the blood more alkaline. It is certainly less easily borne and more provocative of indigestion, in corresponding doses, than are those of the other alkalies. If the condition is marked, there is no remedy that has given me results comparable to salicylate of soda. Salicylates made from the natural acid are more palatable, and less disturbing to the digestion. Small doses, highly diluted, and repeated not more than twice or three times a day, are sufficient, unless true gouty symptoms arise. In such cases, if the salicylates are given until they evoke their physiological effects, as good results are obtained as by the use of colchicum or other remedies, and there remains the satisfaction that the remedy used has not been simply symptomatic, if we can accept as true the many recorded experiments on the influences of the salicylates on the excretion of uric acid, and on the blood. There are innumerable alkaline mineral waters that are exploited as specifics. They are no more specifics than is any solution of alkalies in water. Some of them are palatable, and by presenting a combination of several salts in an aerated water, offer some advantage to those by whom expense need not be considered. My personal preference is for Vichy, either the imported or the Saratoga Vichy. The habitual use of this or of the milder Apollinaris is to be commended to those who can afford it.

It would be interesting to discuss the value of many measures and remedies proposed for the alleviation of this condition, but to review the value of mineral springs and mineral baths, the effect of climate, and the relative merits of many proposed lines of treatment, would take too long, and yield too little. I end as I began, in the assertion that enforcement of a proper dietary, active exercise, and daily baths are of the chief importance.

THE AMERICAN PEDIATRIC SOCIETY'S COLLECTIVE INVESTIGATION ON INFANTILE SCURVY IN NORTH AMERICA.[1]

THE subject of infantile scurvy has so recently come into prominence, and still presents so many mooted questions, especially regarding its etiology, that it was the decision of the American Pediatric Society a year ago to undertake a collective investigation of the matter, based upon the cases occurring in America. This seemed particularly needed, as no other such study upon a large number of cases has yet been made in any country.

The committee, which is now making its report, was accordingly appointed. It has been diligently at work during nearly a year, and has used every means in its power to reach reports of cases of the disease. A list as accurate as possible was prepared of all the medical journals of North America, and a notice of the proposed investigation was sent to each, inviting correspondence on the part of all readers. Letters were sent to the secretaries of the county societies in a large number of the the States of the Union requesting that notice be given at the meetings. Letters were also addressed to the professors of diseases of children in all the regular medical colleges of the United States. The "Index Medicus" was searched for the names of those who had published reports of cases, and letters were addressed to all of them, as indeed to all physicians of whom even the rumor had come of probable cases under their charge. Circulars were printed containing questions to be answered, and were sent to all the members of the American Pediatric Society, to all physicians applying for them, and finally wherever there seemed any chance of getting a response.

The questions contained in the circular requested information on the following points: Whether the case was seen in hospital or private practice; the race, sex, and age; the hygienic surroundings, family history, and previous illnesses; full details of feeding from birth, and the influence which the food appeared to have had upon the development of the disease; the symptoms in detail, with special reference to pain and its location, apparent paralysis or inability to move, swellings, fractures, hemorrhages, the condition of the gums, the presence of fever, the condition of the urine and bowels, the presence of anemia or malnutrition and of rickets or any other complicating diseases, and the character of the first symptom to develop; the treatment in detail, with duration of illness, and the time before decided improvement was discovered; the direct cause of death in fatal cases, and the *post-mortem* findings; and finally, whether the case had been published previously.

The committee has been surprised and pleased at the large number of replies received. There are other cases of which it has knowledge of which no reports could be obtained, and undoubtedly, many more whose existence was not discovered. But in all the committee has collected 379 cases seen by 138 observers. Some of the cases are very incompletely reported, but in the majority of instances the answers are for the most part satisfactory. No cases needed to be excluded as instances of mistaken diagnosis, although a very few were somewhat doubtful.

The topics covered by the questions can best be taken up for the most part seriatim, stating merely what the reports state, without vouching for the correctness of opinions.

Race.—The race to which the subjects of the disease belong is stated in 372 cases. It is not given with definiteness sufficiently often to allow of an analysis further than to say that there were 367 white, 4 black, and 1 Chinese.

Sex.—Sex shows out of 372 cases, 189 male, *i. e.*, 51 per cent.; and 183 female, *i. e.*, 49 per cent.; a difference not decided enough to indicate that sex is an etiologic factor. In the remaining cases the sex is not mentioned.

[1] Reported at the Tenth Annual Meeting, Cincinnati, June 2, 1898.

Age.—Age is a very important matter. Although strictly speaking, the age of the cases of infantile scurvy should be limited to those under two years, the committee has ventured to include a few in children, slightly or decidedly older than this, since the etiology and symptoms are not different in any respect. Question IV. on the circular reads: "Age When Seen with Scurvy," while XIV. reads: "Duration of Illness before Treatment Was Commenced." By combining the answers to these two questions, the age at which the illness developed could be determined in most instances. Reliable information was given in 359 cases; in the remaining number the age was unknown or was not stated. The accompanying tabular arrangement shows the number of cases developing at different ages:

AGE WHEN SCURVY DEVELOPED.

Age.	No. of Cases.	Per-centage.	Age.	No. of Cases.	Per-centage.
3 weeks,	1	.27	16 months,	7	1.70
1½ months,	1	.27	17 "	6	1.67
2 "	3	.83	18 "	7	1.70
3 "	2	.55	19 "	4	1.11
4 "	9	2.50	20 "	2	.55
5 "	5	1.40	22 "	1	.27
6 "	13	3.62	23 "	1	.27
7 "	33	9.19	2 years,	2	.55
8 "	41	11.42	2 years, 3 mos.	1	.27
9 "	47	13.09	2 " 6 "	1	.27
10 "	51	14.20	2 " 7 "	1	.27
11 "	26	7.24	2 " 8 "	1	.27
12 "	25	7.00	3 " 6 "	1	.27
13 "	25	7.00	4 " 2 "	1	.27
14 "	22	6.12	6 "	1	.27
15 "	17	4.73	9 "	1	.27

It will be seen that the disease is most apt to develop between the ages of seven months and fourteen months, inclusive. The youngest case was that reported by Dr. A. Matheson of Neillsville, Wis. This was a child of four weeks who had already been ill five days when first seen. The child was fed at the breast. Its hygienic surroundings were poor. The disease exhibited perfectly typical symptoms and ended fatally.

The oldest child, reported by Dr. J. H. Fruitnight, was one of nine years, and was also a typical case, rapidly recovering under dietetic treatment. The cause appeared to be improper diet.

Social Position.—Of 379 cases it is interesting to note that 83 per cent. occurred in private practice, and only 17 per cent. in hospital practice. Although no absolute class distinctions can be based on these figures, yet they point very positively to the greater tendency of the disease to occur among the rich or the well-to-do. This tendency is still further illustrated by the statements of the writers regarding the *hygienic surroundings* of the cases. In 303 cases these are described as good, and often the statement is volunteered that they were of the very best. In 5 they were doubtful, and in only 40 are they described as bad. The figures of the report would therefore seem to indicate that the influence of bad hygienic conditions upon the etiology of the disease is extremely limited.

Previous Health.—Out of 285 cases suitable for study, it is distinctly stated in 167 that the previous health had been good. In 118 the child had suffered from various diseased conditions which may be enumerated as follows:

Bronchitis, 5; chickenpox, 1; constipation, 1; convulsions, 3; cretinism, 1; diarrheal conditions, 45; eczema, 1; furunculosis, 1; indigestion, 22; influenza, 6; malaria, 1; measles, 7; pneumonia, 5; rheumatism, 1; scurvy (previous attack), 1; scrofulous diathesis, 1; typhoid fever, 1; whooping-cough, 2.

It is evident that the occurrence of most of these diseases can only be considered as accidental. There is a striking preponderance of instances of digestive disturbance. This probably is an indication that the faulty diet which occasioned the scurvy produced the indigestion also. It is no proof that the digestive disease itself bore any etiological relation to the constitutional affection. This is clearly the view of the correspondents, for, in answer to the question of the circular, a belief in any other cause than diet is expressed in only twenty-four instances.

Rickets, anemia, and malnutrition are not mentioned in the foregoing list. They will be referred to later.

Attention may be called to the instance of a second attack of scurvy reported by Dr. L. E. Holt. The child was eighteen months of age at the time of the second attack, the previous one having developed four months before. The first attack followed the use of Mellin's food and sterilized milk. Recovery followed in a week upon a diet of sterilized milk and beef juice, no fruit juice being given. The second attack followed the use of Reed and Carnrick's soluble food. The patient in this attack was in a wretched condition and died in eight days.

The case of scurvy developing in a cretin, reported by Dr. A. Caillé is also interesting. The child was a typical cretin of fourteen months. Scurvy followed the use of condensed milk. Recovery was very prompt under the administration of sterilized milk, fruit juice, and cereals.

Family History.—This, too, appears to exert little or no influence. In 129 cases the family history is stated to have been good, and in 97 it is negative. In 74 the following diseases are mentioned in the family: Alcoholism, 2; anemia, 2; asthma, 1; carcinoma, 1; caries of the spine, 1; diarrhea, 1; eczema, 1; gout, 2; neurotic tendency, 6; paresis, 1; pneumonia, 1; rheumatism, 16; sciatica, 1; scurvy, 1; syphilis, 7; tuberculosis, 27; uricacidemia, 1.

Diet.—The most important etiologic factor, according to general opinion, is a dietetic one. Consequently, the committee has paid particular attention to this point. When correspondents did not make the matter quite clear in their answers, personal letters were addressed to them, asking for further information. A large number of such letters have been written, and replies received in most instances. Full details were asked regarding diet from birth onward, and the question of food used at the time the scurvy developed, or so shortly before that it might seem to be associated with it, was particularly emphasized. The question was also asked, whether in the opinion of each correspondent there was reason to believe that the disease depended on the nature of the food used. An affirmative answer was received in 275 cases; negative, and the disease attributed to other causes, in 24. The

committee is not in a position to judge of the correctness of this view, nor can it claim that the disease *did* arise in any instance as the result of the diet employed. It would merely make the following statements of the food employed at or shortly before the symptoms of scurvy were observed according to the reporters' replies.

Any accurate percentage analysis of the report is impossible, both because the correspondents have not always stated the exact nature of the food, and because in very many instances more than one form of food was given. Perhaps the following summary of some of the main divisions may be of value, remembering, however, that cases are repeatedly counted twice; *e.g.*, one case may be counted in the condensed-milk class and again in the sterilized-milk division.

Food Used at or Shortly before Scurvy Developed.—The number of cases in which the character of the food is specified, is 356, as follows:

Breast-milk.—Alone, 10; with raw milk and amylaceæ, 1; with sterilized milk and amylaceæ, 1; total, 12.

Raw Milk.—Alone, 4; with breast-milk and amylaceæ, 1; total, 5.

Milk (nothing said about heating).—Alone, 8; peptonized, 4; with amylaceæ, 4; total, 16.

Sterilized Milk.—Alone, 68; with proprietary foods, 21; with amylaceæ, 8; peptonized, 10; total, 107.

Pasteurized Milk.—Alone, 16; with proprietary foods, 2; with amylaceæ, 1; peptonized, 1; total, 20.

Peptonized Milk.—Nothing further stated, 3; sterilized, 8; Pasteurized, 1; with proprietary foods, 1; with amylaceæ, 1; total, 14.

Amylaceous Food (not proprietary).—Alone, 6; with breast-milk, 3; with milk, 5; with sterilized milk, 8; with Pasteurized milk, 1; with peptonized milk, 1; total, 24. (Nine of these were oat-meal).

Table Food.—Nothing else mentioned, 11; with condensed milk, 1; total, 12.

Mellin's Food.—Nothing further stated, 42; with condensed milk, 22; with sterilized milk, 16; with Pasteurized milk, 2; with other proprietary food, 1; total, 83.

Malted Milk.—Nothing further stated, 44; with cream, 1; with amylaceæ, 1; with other proprietary foods, 2; total, 48.

Condensed Milk.—Alone, 32; with milk, 1; with cream, 1; with other proprietary foods, 3; with table food, 1; total, 38.

Reed and Carnrick's Soluble Food.—13.

Imperial Granum.—6.

Liebig's Food.—Alone, 1; with condensed milk, 1; total, 2.

Lactated Food.—Alone, 3; with condensed milk, 1; total, 4.

Nestle's Food.—Alone, 1, with sterilized peptonized milk, 1; total, 2.

Among other articles of diet mentioned by correspondents, each in one instance, are: Gardner's food, Robinson's barley, Ridge's food, Brush's food, animal broths, Bartlett's pepsinated food, Lacto præparata with Malted Milk.

There are a number of instances in which the writers mention "proprietary foods" without further designation. In all 214 cases (60 per cent.) were fed on proprietary foods.

The effect of dietetic treatment has such an important bearing upon the etiologic influence of diet that the whole matter will be discussed more fully under Treatment.

Symptoms.—The symptoms in infantile scurvy are so typical and well known that they would appear to need little further study. Nevertheless, the attention which has been directed to them by the questions of the circular has not been without fruit.

First Symptom to Develop and Order and Time of Other Symptoms.—In response to this question the answers have not been altogether satisfactory. Undoubtedly in a large number such early symptoms as anemia and malnutrition were overlooked or were not included by the readers as symptoms of the disease. Then in a large number, perhaps the majority of cases, answers have not made it quite clear whether the correspondent intended that a certain number of symptoms developed in the order in which the names are written, or whether they all were noticed at one time. Presuming that the first is the writer's intention, we make the following statement of first symptom seen, basing this on 327 cases. The order of symptoms is too complicated and too uncertain to warrant a statistical arrangement.

First Symptoms Seen.—Pain and tenderness, 145; affection of gums, 42; interference with motion, 36; anemia, 27; cutaneous hemorrhages, 22; swellings, 16; restlessness, 6; anorexia, 5; debility, 5; diarrhea, 5; constipation, 2; hemorrhage from nose, 1; hemorrhage from mouth, 1; hemorrhage from rectum, 1; hematuria, 3; "hematoma of tongue," 1; irritability, 3; vomiting, 1; fever, 1; opisthotonos, 1; sweating, 1.

Pain on Motion or Handling.—Pain is clearly a very prominent symptom of the disease. Generally it is evident only when the child is moved, or tries to move itself. Sometimes it is so intense that the approach of any one to the bedside is sufficient to cause the child to scream out through fear of being touched. Pain is reported present in 314 instances. In most of the remaining, no answer was made, and it is probable that the symptom could not have been a prominent one. The locality of the pain in the cases where there were accurate details was as follows: Legs, 120; legs and arms, 25; legs and one arm, 11; legs and body, 4; one leg, 13; one leg and one arm, 1; one arm, 1; back, 1; back and legs, 1; back and leg, 1; back and thighs, 1; thighs, 1; hips and thigh, 1; one thigh, 2; one hip, 2; knees, 1; knees and ankles, 2; knees, ankles and shoulders, 1; knees, ankles and wrists, 2; knees and arms, 1; one knee, 1; one ankle, 1; ankles, 1; ankles and feet, 1; ankles and elbows, 1; elbow, 1.

Pain When at Rest.—In 91 cases pain seems to have been present, even when the child was still; while in 134 it is definitely stated as absent under this condition.

Interference with Motion.—The symptom variously described as *paralysis*, *pseudoparalysis* and *disability* or *unwillingness to move* is reported frequently. It probably depends in every instance upon pain, since there

is no evidence that actual paralysis occurs in the disease. In 319 cases interference with motion of this nature existed. Rigidity is described as present in 96 cases and absent in 106. It is due to pain in most instances, but perhaps in others may have been occasioned or increased by the presence of swelling. The parts of the body in which motion has been interfered with in any way in the cases reported, and the locality mentioned in detail, may be enumerated as follows: Legs, 159; legs and arms, 55; legs and one arm, 14; legs and one hand, 2; one arm, 3; legs and thighs, 1; thighs, 3; one leg and one arm, 1; one leg, 27; one thigh, 2; hips, 1; one hip, 2; one hip and thigh, 1; one hip and knee, 3; hip, leg and shoulder, 1; hip, elbow and shoulder, 1; one knee, 4; one ankle, 2; ankles, knees, hand and wrist, 1.

Position of the Limbs.—To a question regarding the position of the limbs, about which Barlowe speaks so definitely, there have been replies in 205 cases. In 17 of these the position was normal. In the balance we find the position of the limbs as follows: Flexed, 152; extended, 23; flexed and abducted, 1; flexed and adducted, 1; flexed and everted, 1; abducted, 1; everted, 3; everted and extended 2; toes extended, 1; feet extended, 3.

Weakness of the Back.—The occurrence of weakness of the back, a symptom which Barlowe says is marked, is mentioned as present in 97 of the cases reported to the committee, and as absent in 108. In the remaining nothing is said of it.

Depression of the Sternum.—This condition is likewise emphasized by Barlowe as being sometimes striking and characteristic. It is mentioned in 34 cases, but said to be absent in 170 others. It is not certain in the cases of the report how frequently the condition had developed acutely as a result of scurvy, and how often it had already been produced by a previously existing rachitis.

Swellings.—The effort has been made by analyzing the cases collected to determine the position of local swellings, whether these were situated in the joints or the shafts of the limbs, in the soft tissues or in the bones, and whether any redness was present. The answers are not clear in every instance, and are frequently somewhat contradictory, partly, perhaps, from failure of the observer to understand the question, and partly from lack of careful discrimination between subperiosteal and other effusions, and between effusion into a joint and that about it. The great irregularity also of the distribution of the swelling renders an accurate tabular arrangement too complicated. Remembering that in many cases more than one part of the body was involved, and that the figures given do not mean that only the portion mentioned is affected in these cases, the following division may be made: Joints (or probably oftener about joints) involved in 165 cases. Location given in 101; *viz.:* Knees, 73; ankles, 28; wrists, 12; hand, 1; elbow, 3; shoulder, 5; hip, 6.

Shafts of limbs involved in 197 cases. Location given 123; *viz.:* Thighs, 59; legs (below knee), 16; "legs" (not further stated), 11; forearm, 5; upper arm, 4; "arm," 5; ribs, 1; scapula, 1; ilium, 1.

The gross results of the answers regarding the tissues in which the swelling occurred gave: Swelling in soft tissues, 97: swelling, subperiosteal, 114; swelling in both situations, 16. In 69 cases the swollen parts were reddened also. It is stated that there was no redness in 121. A more general swelling, to be classified rather as edema, is described in 68 cases and stated to be absent in 98. In regard to the swelling or protrusion of one or both eyes which has been described by writers, the symptom is said to have been absent in 110 cases and is reported present in 49. In 9 of these swelling only is mentioned, in 18 protrusion only, and in 22 both are referred to.

Gums.—The condition of the gums and mouth is one of extreme interest. In 16 cases it is distinctly stated that the gums were entirely unaffected, while in 313 they were diseased. The degree of involvement varies from slight swelling to great sponginess and even ulceration. The degree and form of the affection in the cases suitable for study may be seen in the following table: Swelling, absent, 14; present, 293; sponginess, absent, 27; present, 249; discoloration, absent, 23; present, 259; bleeding, absent, 64; present, 188; ulceration, absent, 101; present, 91, The relation of the affection of the gums to the presence of teeth is of much interest. In nearly all the cases of scurvy in this report teeth were present, but what influence this has is not quite clear, since experience teaches that, curiously, it is usually the gums of the upper jaw which are most affected, although the lower teeth naturally are the first cut. Statistics on the portion of the gums involved were not furnished sufficiently to allow of conclusions; but regarding the teeth it is to be noted that of 359 cases suitable for comparison, teeth had already appeared in 314 instances, *i.e.*, 87.5 per cent.; while in only 45 cases, *i.e.*, 12.5 per cent., were there no teeth. In studying more carefully these 45 cases of scurvy without teeth, we may make the following analysis: No teeth, gums normal, 21 cases; no teeth, gums affected, 24 cases. The conditions present in the latter group were as follows: Swelling, 19 cases; sponginess, 14 cases; bleeding, 5 cases; discoloration, 17 cases; ulceration, 4 cases. This is a proof that affection of the gums may occur equally well when there are no teeth as when teeth have developed. The fact that in the great majority of cases of infantile scurvy the presence of teeth and the affection of the gums is associated, depends merely on the fact that the disease generally develops at an age when teeth naturally have been cut.

Cutaneous Hemorrhages.—These have occurred with frequency in the cases reported. Accurate data are given in 353 cases. Of these, cutaneous hemorrhage is reported present in 182 and absent in 171. There is much doubt about the accuracy of the writers in their classification of the hemorrhages according to size, and to the proper use by them of the descriptive names employed, inasmuch as the question on this point did not specify clearly. In 99 instances the presence of "ecchymoses" is mentioned. In 83 "purpuric eruption" is reported, and in 37 "petechiæ." In 13 the nature of the lesion is not specified.

Hemorrhages from Mucous Membranes — Data are available in 361 cases. Of these were no hemorrhages

from any mucous membrane in 196, while in 164 they occurred. In 93 cases there was hemorrhage from the mouth. This includes the cases where bleeding from the gums is described by writers. In 33 cases there was bleeding from the nose, in 2 from the stomach, and in 37 from the bowels. Cases of hematuria are not included here, and will be referred to later.

Fractures.—Fractures in infantile scurvy are usually separations of the epiphyses merely. Even this would seem to be rare, for fractures of any kind is mentioned in only 9 of our cases. In 342 it is distinctly stated to have been absent, and in the remaining the question is not answered.

Fever.—Probably in the majority of the cases of the disease upon which this report is based no temperature record has been made. In 93 cases it is stated that there was no fever; in 182 it was present and in the remaining no answer is given. In the cases where present it is described as slight in 116 instances, moderate in 23, high in 8, and irregular in 6. Clearly, fever is not a prominent symptom of the disease, and probably often, when present, depends on accidental causes.

Bowel Movements.—The following conditions are mentioned: Bowels regular, 74; bowels irregular, 15; constipation, 126; diarrhea, 65; bloody diarrhea, 12.

Urine.—Judging from the number of instances in which no answers have been returned, no examination of the urine has been made in most of the cases. It is reported as examined for albumin in 163 cases: in 33 of these albuminuria is reported and in 130 it was absent. Tube casts were present in 13 instances, absent in 13, and no observation reported in the others. Properly speaking the occurrence of hematuria should be discussed under the title of hemorrhage. It is mentioned as present in 22 cases only. Of other abnormal conditions of the urine the following may be mentioned: Urine very acid, 1; urine scanty, 9; urine suppressed, 1; urine increased in quantity, 3; glycosuria, 1; hemoglobinuria, 1; pus (from cystitis), 1; phosphates increased, 1; chlorids increased, 1.

Anemia; Malnutrition. — These conditions, already referred to as often the earliest symptoms of infantile scurvy, may have been the first evidences of the disease in many of the cases on which this report is based. In other cases they must be regarded as complicating affections only. Answers are not full enough to allow of satisfactory conclusions on this point.

Anemia is said to have been present in 254 cases, as follows: Anemia present (without specifying degree), 47; anemia slight, 66; anemia moderate, 32; anemia marked, 109.

Blood examinations were made in 15 cases and the conditions noted as follows: The percentage of hemoglobin was much reduced in all the cases, 8 in number, in which an examination was made, some being as low as 35 per cent. Of the 7 cases in which the red blood-corpuscles were counted, all showed a reduction except 2. In these 2 the number was normal or nearly so, but the hemoglobin was 50 and 35 per cent., respectively. Leucocytosis was present in 5 cases, poikilocytosis in 2. In only one instance was there a differential count of the leucocytes made. Of 217 cases in which the question is answered, emaciation is recorded in 167 and is said to have been absent in 50. Malnutrition was observed in 178 cases out of 216, in which replies were made as follows: Malnutrition present (without specifying degree), 108; slight, 20; moderate, 7; marked, 43.

Rickets.—Infantile scurvy has so often been described as "scurvy rickets" and "acute rickets," that the investigation of the actual relationship of the two diseases was one of the matters to which the committee directed especial attention. The question upon the circular reads as follows: "(*a*) Any symptoms of rickets present? (*b*) Slight or well marked? (*c*) What relation in time of development did they bear to the scurvy?" Satisfactory answers were received in 340 cases; in 152 of these (45 per cent.), there were symptoms of rickets present, slight in 72, marked in 64, and the degree not mentioned in 16. In the remaining cases (55 per cent.), rickets is definitely stated to have been absent. With regard to the relation in time of development, it is stated in 50 cases that the rickets was first present; in 14 that it developed with the scurvy, and in 2 after it. There does not seem to be evidence as far as this investigation teaches that the association of rickets and scurvy is at all intimate. Very possibly the same defect in diet which produced the one produced the other also, but the rapid recovery under treatment which the scurvy underwent did not apply to the rickets. This seems to indicate only accidental association of the two diseases; certainly not any causal relation between them.

Other Complicating Conditions.—A variety of affections are mentioned complicating scurvy in a number of cases, as follows: Bronchitis, 5; cretinism, 1; enlargement of inguinal glands, 1; "cerebral symptoms," 1; convulsions, 1; pneumonia, 2; boils, 1; irritability, 1; vomiting, 4; eczema, 2; enuresis, 1; sweating of the head, 1; tympanites, 1; caput medusæ, 1; diaphoresis, 1; pertussis, 2; insomnia, 1; anorexia, 2; post-nasal discharge, 1; measles, 1; restlessness, 1; phimosis, 1; indigestion, 2; laryngismus stridulus, 1; cystitis, 1.

Diagnosis.—The study of diagnosis has been only incidental, based upon the mistakes made before the disease was recognized in certain cases. The only disease for which infantile scurvy was repeatedly taken appears to have been rheumatism. In several instances the affection of the legs was supposed to be due to sarcoma. The apparent paralytic condition has also been the cause of error in some instances.

Duration of Illness and Prognosis.—The disease is essentially chronic, its course terminating only on the institution of proper treatment. This seems to be proved by the answers contained in the circulars. To the question concerning the *duration of the disease before the case came under observation*, replies were received in 306 cases.

Intensely interesting in this connection are also the replies to the next two questions: First. *Duration of illness after treatment was commenced*, and second, *duration of treatment before marked improvement was noticed.* To the first question replies concerning 308 cases were

received. Of course those fatal during the attack of scurvy are not included here nor those which passed from observation.

DURATION OF THE DISEASE BEFORE TREATMENT WAS COMMENCED.

Days.	Cases.	Weeks.	Cases.	Months.	Cases.
2	3	1	15	1	18
3	3	2	33	2	42
5	2	3	58	3	31
8	1	4	22	4	14
9	1	5	8	5	4
10	9	6	29	6	7
24	1	7	6	7	2
		8	1	10	1
		10	3	12	1
				2½ yrs.	1

Still more striking are the answers to the second question, as to the time when marked improvement was first noticed. There are 311 cases suitable for study in this category, excluding fatal cases and those passing from observation as before. The replies are often astonishing. Nothing is more striking than the speed with which these reports show a grave constitutional disease disappearing under proper treatment. There is certainly no disease for which a more specific treatment can be said to exist. The replies to the last two questions may be conveniently stated in the following tables:

DURATION OF TREATMENT BEFORE MARKED IMPROVEMENT WAS NOTICED.

Days.	Cases.	Weeks.	Cases.	Months.	Cases.
1	19	1	47	1	6
2	58	2	27	2	4
3	46	3	8	3	4
4	26	4	1		
5	19	5	1		
6	1	6	1		
7	2				
8	2				
9	1				
10	7				
12	2				

Reported as prompt recovery, 13; at once, 15; immediate, 1.

DURATION OF TREATMENT BEFORE RECOVERY WAS COMPLETE.

Days.	Cases.	Weeks.	Cases.	Months.	Cases.
1	6	1	48	1	28
2	5	2	54	2	14
3	14	3	36	3	5
4	8	4	14	4	2
5	5	5	6	5	1
	1	6	14	6	2
	2	7	1	7	1
10	17			8	1
12	3			9	1
13	3				
15	2				
16	1				

Reported as immediate, 4; almost immediate, 9.

Treatment.—Not so much could be learned of the value of treatment as could be desired on account of the fact that in nearly all cases we have a combination of diet and of medicinal measures, including the use of fruit juices, and it is impossible to determine absolutely which was the active curative agent.

Taking the cases in which treatment was effectual and which are suitable for study, the results may be stated as follows:

I. Cases recovering under treatment with drugs only (no change in diet) 0
II. Cases recovering under the use of fruit juice alone (no change in diet) 3
III. Cases recovering under the use of beef juice alone (no other change in diet) 2
IV. Cases recovering under the use of beef juice and fruit juice combined, with or without drugs (no change in diet) 6
V. Cases recovering under the combined effect of change of diet, often including beef juice, and employment of fruit juice, with or without drugs 257
VI. Cases recovering under change of diet, often including beef juice, and use of drugs (no fruit juice) 20
VII. Cases recovering under change of diet alone, often including beef juice (no fruit juice) 38

These last two may be properly considered together, since there is no evidence that any treatment with drugs has an appreciable effect upon the disease. So many of the reported cases were treated with drugs alone without result before the correct diagnosis was made and other treatment instituted, that this belief is amply justified. Combining, therefore, divisions VI. and VII., and comparing the statements of the writers regarding the diet employed during treatment and that employed when the scurvy developed, we may make the following table based upon fifty-eight cases.

Again the committee would state that no claim is made that the recovery was the result of the change, but that it quotes merely the statements of the correspondents to the effect that recovery took place after the change was made.

VI. and VII.—Recovery Following Change in Diet Alone, with or without Drugs. (No Fruit Juice Employed.)

Mellin's food to milk and beef juice 2
" " to raw milk and beef juice 1
" " to modified milk 4
" " to modified milk and beef juice 2
" " to diet and beef juice 1
" " and sterilized milk to beef juice and broths 1
" " and sterilized milk to sterilized milk and beef juice 2
" " and condensed milk to modified milk, 1
" " and condensed milk to raw milk 2
" " and sarcopeptone to fresh milk and beef juice 1
Condensed milk to fresh milk and beef juice 1
" " to sterilized milk and diet 1
" " to lactated food and raw milk 1
" " to sterilized milk 1
Malted milk to milk and diet 1
" " to raw milk and beef juice 1
" " and amylaceæ to modified Pasteurized milk and beef juice 1

Sterilized milk to diet and beef juice	1
" " to fresh milk and beef juice	2
" " to raw milk	4
" " to diet	6
" " to raw milk and beef juice	1
" " to sterilized milk and beef juice	1
" " peptonized to raw milk and beef juice	1
" " to Pasteurized milk and diet	1
" " " " "	1
Pasteurized milk to raw milk	2
" " to fresh milk and beef juice	1
" " to sterilized milk and broths	1
Raw milk to amylaceæ	1
Breast-milk to peptonized milk and broths	1
" " to sterilized milk	1
Lactated food to raw milk and beef juice	1
Reed & Carnrick's soluble food to modified milk	1
" " " " " to baked potato	1
" " " " " to beef juice	1
Imperial granum to raw milk and beef juice	1
Patented food to diet	1
Ridge's food to diet	1
Diet (poor) to diet (better)	2
Bartlett's pepsinated food to fresh milk	1

It must be noted with regard to this table and those following that the term "modified" milk is used very loosely by the reporters. Occasionally it is specified to be laboratory milk, but much oftener this is not the case, and we are unable to know whether the modification was done at home or not, and whether the milk was heated or not. Presumably it was Pasteurized in many instances. Where the term "fresh" milk is employed in the table, we have been unable to learn by additional correspondence whether "raw" milk is meant or whether only a change from proprietary food to cow's milk is intended. The term "diet" as employed in the tables either expresses the fact that a large and varied number of different forms of diet were tried, too complicated to be detailed, or else quotes merely the statement of the writers that a change of diet was made, the original food probably being abandoned entirely unless otherwise stated.

The following table shows the food employed in divisions I., II., III. and IV., in which the diet was the same (except sometimes for the addition of beef juice), while the scurvy was developing and while it was recovering.

Recovery Following with No Change of Diet During Treatment.

I.	Treatment with drugs only		0
II.	Treatment with fruit juice only		3
	Mellin's food (milk sterilized)	1	
	Sterilized milk	2	
III.	Treatment with beef juice only		2
	Sterilized milk	1	
	Raw milk	1	
IV.	Treatment with combined beef juice and fruit juice only		6
	Sterilized milk	2	
	Sterilized milk and broths	2	
	" " " amylaceæ	1	
	Table food	1	

Division V. contains by far the largest number of cases, 257 in all. The changes in diet employed are much too complicated to be stated fully in the table. Moreover, they are of little value, since the treatment was such a composite one, *viz:* change of diet combined with the use of fruit juice in every case, and often of beef juice and of drugs as well. A few of the more striking classes of cases may be selcted as follows:

V.—Recovery Following Change of Diet Cimbined with Fruit Juice, with or without Drugs.

Condensed milk to milk, variously treated	23
Imperial granum to milk, variously treated	7
Lacto præparata to raw milk	2
Lactated food to milk	1
Reed & Carnrick's Soluble Food to milk, variously treated	3
Malted milk to milk, variously treated	38
Mellin's food to milk, variously treated	21
Mellin's food and condensed milk to milk, variously treated	19
Sterilized milk to fresh (probably always raw) milk.	34
Sterilized milk to Pasteurized milk	4
Pasteurized milk to "fresh" or "raw" milk	9
Pasteurized milk to sterilized milk	1
Raw milk to sterilized milk	1
Breast-miik to cow's milk, variously treated	6

The conclusions to be drawn from this combined study of etiology and of treatment seem justifiable only to the following extent: (1) That the development of the disease follows in each case the prolonged employment of some diet unsuitable to the individual child, and that often a change of diet which at first thought would seem to be unsuitable may be followed by prompt recovery. (2) That in spite of this fact regarding individual cases, the combined report of collected cases makes it probable that in these there were certain forms of diet which were particularly prone to be followed by the development of scurvy. First in point of numbers here are to be mentioned the various proprietary foods. (3) In fine, that in general the cases reported seem to indicate that the farther a food is removed in character from the natural food of a child the more likely its use is to be followed by the development of scurvy.

Fatal Cases.—Twenty-nine of the 379 patients are reported to have died. In 2 of these, death seems to have been remote from the attack of scurvy. Of the remaining 27 the causes as enumerated by the reporters are as follows: Exhaustion, 6; cerebral hemorrhage, 3; diarrhea, 2; bronchitis, 2; vomiting (?) 1; convulsions, 1; pneumonia, 4; malnutrition, 1; pulmonary hemorrhage, 1; ulcer of stomach, 1; syncope and nephritis, 1; doubtful, 4. It is difficult to determine in how many of these the scurvy itself could be held responsible for the death; probably in few, if any.

Autopsies.—There have been handed in to the committee the reports of six autopsies in all, some of them only partial. The salient points of each may be enumerated as follows:

Case of Dr. Caillé. Child of nine months; ill about three months. Autopsy showed hemorrhagic spots on the pericardium and surface of the liver; subperiosteal hemorrhage of the long bones. Case of Dr. L. E. Holt. Child of twelve months; ill for two months. Autopsy showed separation of the lower epiphysis from the shaft of the left femur; extensive subperiosteal hemorrhage of the left femur; subpleural hemorrhages; bronchopneumonia. Case of Dr. L. E. Holt. Child of thirteen months; ill about two months. Autopsy showed subperiosteal hemorrhage and separation of the lower epiphysis of the left femur; hemorrhages into the muscles of the left thigh; swellings about the opposite knee and both ankles; knee-joints normal; minute subpleural hemorrhages; well-marked exudative nephritis; minute hemorrhages on the surface of the liver. Case of Dr. W. P. Northrup. (The first autopsy in the United States.) Child of eighteen months; ill about one month. Autopsy showed subperiosteal hemorrhage of both tibiæ and both femora; detachment of the lower epiphysis of the left femur and maceration of lower end of shaft; bronchopneumonia of left lung; no rachitic or syphilitic changes on microscopical examination. Case of Dr. L. Starr. Child thirteen months; ill for three months. Autopsy showed "right leg from knee to ankle stuffed with a puffy mass replacing normal tissue. Separation of both bones one inch above ankle." Case of Dr. C. W. Townsend. Child of ten months; ill three to four weeks. Autopsy showed bloody serum in pleural cavity; perforating ulcer of the stomach; tubercular (?) process in peritoneum.

In conclusion the committee would thank publicly their correspondents who have sent their reports of cases and who are enumerated below. They are also much indebted to Dr. Wm. Schleif of Phiiadelphia for valuable aid in analyzing the circulars received and tabulating the result.

[SIGNED],

J. P. CROZER GRIFFITH, M.D., Phila.,
CHARLES G. JENNINGS, M.D., Detroit,
JOHN LOVETT MORSE, M.D., Boston,
} Committee.

MINORITY REPORT.

1. From a study of this report and from due consideration of other known facts, scurvy appears to be a chronic ptomain poisoning due to the absorption of toxins.

2. It follows the prolonged use of improper food, and abnormal intestinal fermentation is a predisposing factor.

3. Sterilizing, Pasteurizing, or cooking of milk food is not, *per se*, responsible for the scurvy condition.

4. A change of food and the administration of fruit juice and treatment of any underlying cause is the rational therapeutic procedure in scurvy.

[SIGNED], AUGUSTUS CAILLÉ, M.D.

ACTION OF THE SOCIETY.

On motion, the majority report was adopted by the Society by a vote of 18 to 1.

WAR ARTICLES.

NEWS OF THE WEEK.

Two months have now elapsed since the war was declared and a brief retrospect of the results that have been attained by this country must prove satisfactory and instructive to every thinking man. Instructive especially are the results so far achieved as showing what can be done in a short time in transforming a quiet commercial and eminently intellectual people, resting quietly, in fact almost slumbering in the lap of peace, into a powerful recognized factor among the great fighting nations of the world. In the short space of two months another "great power" has been born and henceforth the United States must live outside of itself. The necessity for a navy has been forcibly and effectually taught us, and in the government of our newly acquired territory a large army of regulars must be hereafter maintained.

. . . . . .

Our Government has moved slowly but carefully, no serious blunders have been committed, and results so far are certainly satisfactory. Spain's navy is for the most part destroyed or safely entrapped awaiting destruction or capture; an army of nearly twenty thousand well-equipped men has been landed near Santiago de Cuba; another army of invasion is at hand to complete Admiral Dewey's capture of the Philippines; Puerto Rico is already in the shadow of another "army terrible with banners." Additional forces are on the way or ready to embark to each of these points and it is small wonder that the Madrid newspapers are urging plans for peace. And this is the result of the storm which came up out of a clear blue sky only two months ago!

. . . . . .

It is a cause for hearty congratulation that our army of invasion is safely landed on Cuban soil. A more helpless affair than a transport laden with soldiers on the high seas cannot well be imagined. A single torpedo-boat under cover of darkness might easily cause a destruction of life too horrible to contemplate. The landing of such a body of men on a hostile and almost unknown shore without wharfs is an undertaking of very serious concern and its safe consummation is most welcome news.

. . . . . .

The failure of the Army Board to supply veterinary surgeons for the cavalry troops has borne fruit in the shape of much influenza and a species of mania among the army horses. The latter ailment is quite new and little understood. At Tampa very many horses were affected owing to their being ex-

posed without shelter to the hot sun, the majority of them having been brought from Northern States, although as a matter of fact the southern-born animals were also unable to stand the blazing all-day sun to which they seem to have been exposed. The lack of veterinarians will doubtless receive ample attention as soon as possible.

. . . . . .

Every year when graduation time comes around the question arises, "What shall be done with the young physicians?" A plausible answer to this question which is yearly becoming more difficult to answer may be furnished by the war. Not only will our largely increased Army and Navy require many medical men, but our newly acquired territory will offer a field of lucrative practice for several thousand physicians, surgeons, dentists, and veterinarians.

. . . . . .

The advice that while Spain's communication with Cuba is entirely cut off our Government has secured direct cable service with Camp McCalla on Guantanamo Bay is most welcome news. The Washington authorities may now be kept fully informed as to the movements of General Shafter's army and of the ships of Admiral Sampson's fleets.

. . . . . .

It is hard to believe that Spain still retains as much of barbarism as is evidenced by her refusing to arrange for an exchange of Lieutenant Hobson and his brave comrades, and yet the indications are that she proposes to hold them as hostages. We trust due notice will be sent Admiral Cervera and Captain-General Blanco that they will be held personally accountable for the lives and health of these young heroes. On the other hand, as indicating a partly civilized condition of the Spanish, it is authoritatively reported that the bodies of the four marines who were killed in the Guantanamo fight were *not* mutilated as was at first thought. It is definitely stated by the surgeon who cared for the dead and wounded that the wounds which were attributed to mutilations were results of Mauser rifle balls.

PLUCK AND NERVE IN THE NAVY.

BY RAYMOND SPEAR, M.D.,
ASSISTANT-SURGEON, UNITED STATES NAVY, ON BOARD FLAGSHIP "NEW YORK."

BEFORE the beginning of hostilities with Spain when the ship's company was drilled in preparing the ship for action, the men all took their stations promptly, and each part of the machinery of the great engine of war was quickly manned, and in a very few minutes everything was ready for action. To an onlooker the quickness and precision with which each man took his station seemed marvelous. If these same people could see the actions of the same men when "general quarters" is sounded and there is reason to believe an engagement is imminent, they would scarcely believe their eyes. Now enthusiasm and spirit dominate everything. Each man knows that on the way his work is done depends in a measure the outcome of the conflict.

When everything is made ready, ammunition hoisted, guns loaded and manned, there comes a period of suspense, a calm before the storm, so to speak. Looking around the decks no sign of fear can be discovered; there are no pale or anxious faces to be seen, nobody seems to be thinking of home; every thought is for the present. Here and there the "jackies" are cracking jokes; the men at the guns that will be engaged seem the most contented of all; their companions on the unengaged side look sorrowful in comparison, and many a little oath is dropped by them about hard luck.

A period of expectancy now ensues. The nerves assume a state of tension, which is relieved as soon as the gun is fired. The crew now settle down to work. The first few shells from the enemy cause comment; when a puff of smoke from an opponent's gun is seen there are some that stop momentarily and watch for the destination of the shell, and feel relieved when they see a column of water rise out of the sea. When the first shell whizzes overhead almost everybody can be seen to duck. This is entirely a reflex act, and is no sign of fear. Soon all thought of the enemy's shells passes away, and the men at the guns have eyes for their own shells only. They know that the best defense is a well-directed fire. Each shot from the guns is noted, and when the range is accurately determined the Yankee marksmanship becomes evident.

At Santiago the shooting from the "New York" was wonderful in its accuracy, shell after shell being dropped exactly in the right spot, and the gunners and others sent up a shout each time a cloud composed of guns and dusty Dons arose out of a Spanish battery. The excitement of action for those who can see what is going on dispels any nervous strain that may have existed.

Below the decks, down in the engine and fire-rooms, in the coal-bunkers and magazines, there are many men working away, seeing nothing and hearing only the reports of the guns and exploding shells. If the engagement be with a ship they cannot tell at what moment a torpedo will come crashing in through the vessel's side, or if the ship be entering a harbor, at what instant the ship's bottom will be blown upward by a mine. These are the people

whose nerves are put to a strong test. But they never murmur, and so far no man in the American navy has given in to fear.

The action over, and the enemy's fortifications reduced, there is an air of satisfaction visible everywhere. Men can be heard discussing the different shots and talking about the target practice and wondering when they will get some more. When "secure" is sounded and "retreat" has gone, the men go about their duties as if nothing had happened. Looking around they can be seen writing, playing cards, reading, and sleeping quietly.

One of the best examples of the pluck and nerve in the American squadron was made manifest when a crew was wanted by Hobson to take the "Merrimac" into the harbor at Santiago and sink her in the channel. The fate of the men who were to go on the expedition seemed to be sealed, as the chances of getting through alive apparently were very slim. There was no call for volunteers; none was needed; for as soon as it became known that the "Merrimac" was to go in on its perilous trip, practically all of the officers and men in the fleet volunteered, and many were the disappointments when the seven heroes were chosen.

The war, so far as the Navy is concerned, has been devoid of many of its supposed horrors, and although the men have been on the larger ships for six months without getting ashore, there are few, if any, who would go home if they had the chance before the final battle is fought.

GETTING READY; FOREIGN MEDICAL MEN WITH THE UNITED STATES FORCES; A FLOATING HOSPITAL ON A SCOW.

Tampa, Florida, June 18, 1898.

To an anxious patient who was desirous of closing up his earthly affairs if his end was drawing near, the sagacious Flint, wishing not to unduly excite the apprehensions of the sick man, said to him, with characteristic tact, "It is better to be prepared and not go, than to go unprepared." This seems to be the principle on which the medical departments of the 5th and 7th Army Corps have been working for the past three weeks. We may never see Cuba but we are *getting ready to go.* Upon our preparedness will depend our efficiency as an organization when the "storm-and-stress period" sets in.

This "getting ready" constitutes a valuable field experience that we younger officers are acquiring and we may regard its acquisition as a priceless endowment. Organization has been the keynote of our activity since our advent at Tampa, and considering that we have been on a peace footing for more than thirty years it would be surprising did the wheels not creak a little. But the medical department will be found ready to go aboard the transports when the tocsin sounds.

Orders to prepare for early embarkation were given us on June 4th, since which time hurried preparations have been going on all along the line. The three divisional hospitals have been completing their organization, together with their ambulance-train service. The second divisional hospital, longest in existence, and therefore much encumbered with the sick and wounded has relieved itself by dispatching a carload of patients back to Atlanta.

Near this hospital on Tampa Heights is located the chief surgeon's office in the field. Here we had the pleasure recently of meeting a distinguished foreign medical officer, Brigadier-General Fr. Thaulon, Surgeon-General of the Royal Army and Navy of Norway, and President of the Norwegian Red Cross.

The general evinced much interest in the many phases of active field preparations that were going on, and remarked to us that Norway had had no war since 1814, implying perchance, in his tone of voice and gesture, that a too long-continued peace is apt to prove enervating.

We are happy in having with us also, Dr. A. E. Wynter, M.R.C.S., representing both the *British Medical Journal* and the *Lancet.* He is an old resident medical officer of St. Bartholomew's Hospital, London, and has had considerable experience with Indian fevers and tropical diseases.

Our volunteer and acting assistant surgeons are rapidly accommodating themselves to military methods. As remarked in your editorial columns, it is hoped that hints on medico-military topics will not fail to prove most timely and helpful to the members of the profession, inexperienced in military life, who are now going out with the volunteer forces.

These surgeons, are of course, well informed in regard to their strictly professional duties, but as to military methods or "red tape," as it is disparagingly termed, many of them are in the same situation in which a medical officer of the regular establishment finds himself on first entering the service. We have, therefore, a lively sense of sympathy for our brethren in this regard and stand ready to assist them in forming a proper conception of medico-military administration. The chief surgeon has in one or two instances assigned this duty to some of the medical officers of the regular establishment and those volunteer or acting assistant-surgeons inexperienced in military matters have shown great zeal in acquainting themselves with army methods.

Volunteer stewards are being instructed in the

making out of official records and reports of the medical department in the field, and inasmuch as these papers pass for revision and signature through the hands of commissioned medical officers it would show a commendable zeal in the latter to acquaint themselves with the provisions and requirements of the manual for the medical department, and those paragraphs of army regulations which relate to the medical department, as well as certain chapters in Smart's "Handbook for the Hospital Corps," and the printed directions upon the required reports themselves. Add to these the drill regulations for the hospital corps and circular No. 3, issued from the Surgeon-General's Office, Washington, D. C., May 18, 1898, giving a summary of the duties of chief surgeons of corps, of divisions, of brigades, of regiments, of division hospitals, and of ambulance companies, and the student will not remain long uninformed of his rights and duties.

Those who have acted as local sanitary officers on boards of health may have already acquired that alertness and eternal vigilance so requisite in an efficient sanitary officer, otherwise they may do well to cultivate the habit of inspecting their sanitary surroundings and by rendering a strict account of unsanitary conditions to their immediate commanders, exonerate themselves from any blame attaching thereto. Upon first joining the service it is incumbent upon the young medical officer of the regular establishment to become thoroughly conversant with the making of reports and records required by the medical department. Of course, he has a steward or acting steward, but without any disparagement of this very efficient branch of the medical organization, efficient administration of a military hospital requires a commissioned medical officer competent to direct and review the work of his assistants.

A plan for a floating hospital on a scow has been evolved by Captain Euclid B. Frick, Surgeon attached to the Battalion of Siege Artillery. While serving at Port Tampa he noticed some scows floating in the bay and he set himself to considering the feasibility and advantages of erecting hospitals upon these platforms. He has made drawings and submitted them to the chief surgeon.

His proposition is to take a scow 90 x 30 feet, having a landing platform in front 10 x 30 feet, and locate upon the lower floor of a two-story structure a dispensary and office, ward for twenty men, quarters for twelve members of the hospital corps, quarters for surgeon and assistant-surgeon, store-room, water-closets, and bath-rooms, and on the upper floor, operating-room, four small rooms for treatment of officers, officers' dining-room, dining-room for enlisted men, kitchen, quarters for three hospital stewards, and a ward for twenty-one patients. Two force pumps are provided for water-supply, one on the right and one on the left of the landing platform. The one on the right forces salt water to the salt-water tank on top of the house for use in flushing closets. The one on the left forces water to the fresh-water tank on top of the building from a small tank supply-boat for general use. The advantages claimed are: The location is cooler; no dust, so prevalent at Tampa; no trouble with drainage and sewerage, and the floating hospital is away from centers of local infection. It could be anchored in Tampa Bay where the water is smooth and if needed could be towed to distant parts. When the war is over, the structure could be utilized as a place of detention.

HENRY I. RAYMOND, M.D.,
Captain and Assistant-Surgeon, United States Army.

MEDICAL PROGRESS.

Study of Epilepsy and Its Treatment by Resection of the Cervical Sympathetic.—SCHAPIRO has written a monograph upon the above subject, of which an abstract appears in the *Centralblatt für innere Medicin*, May 21, 1898. Epilepsy is in the highest degree a chronic disease, which almost never subsides when once it is firmly established. It is a neurosis which in its early stages has no demonstrable anatomical basis. The numerous and varied changes in the cerebrospinal system which often accompany it are to be looked upon as secondary. Also the changes of the cervical sympathetic are not constant enough to be regarded as an anatomical basis of the disease. Whatever the *primum movens* may be, which upon hereditary or acquired grounds calls forth epileptic attacks, the immediate cause of a particular seizure lies in the vasomotor system, and consists in a sudden cerebral anemia, followed by a passive cerebral congestion, in consequence of paralysis of the vasomotor center. This theory explains all the clinical phenomena. The true epileptic aura described by Brown-Séquard is seldom seen. The exciting cause may be either peripheral or central, but in either case it acts upon the vasomotor center.

The resection of the cervical sympathetic ganglia produces a very sullen and severe cerebral anemia, and increases the vitality of the nervous elements of the brain. It is sufficient to remove the upper and middle ganglia and the cords which unite them. The operation is not at all dangerous. A myosis is the only permanent change which follows. Still the shrunken pupil reacts very well to light and accommodation, and dilates readily again under the influence of atropin. The results thus far obtained encourage one to make further attempts, especially in the case of those epileptics who, in spite of all non-surgical measures, suffer from an increasing frequency of attacks.

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No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK.

Subscription Price, including postage in U. S. and Canada.

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LEA BROTHERS & CO.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK,
AND NOS. 706, 708 & 710 SANSOM ST., PHILADELPHIA.

SATURDAY, JULY 2, 1898.

CARE OF THE SOLDIER'S FEET.

A FEW weeks ago we called attention to the fact that by far the most essential requisite of a soldier's outfit is a properly constructed, well-fitting shoe. We pointed out that the method of awarding contracts for footgear to the lowest bidder was bound to bring forth a very undesirable article unless the closest watch was kept upon the various contractors. It seemed to us then, as it seems now, that it would be the right sort of economy to place the contracts with the most reliable manufacturers and pay them a price which would permit them an honest profit. Already complaints are finding their way into the public press. In the *New York Herald* of last week Colonel R. E. Leonard of the Twelfth New York Volunteers is made to say: "If I were asked what I had to complain of I could only say that the Government shoes are of poor quality and do not wear." This has been a complaint of commanders dating back to the time when shoes were first adopted as footgear. Although the Commissary Department cannot be made to realize the immense importance of providing the right sort of boots, and although there may be obstacles in the way of obtaining them, much can be done by the medical personnel of the various divisions of the army in keeping in good condition the feet of the soldiers under their care.

In a recent issue of the *Deutsche mil. artz. Zeitschrift* there is an article by Gerdeck on the use of formalin in the care of the feet of troops which contains many timely suggestions that may be utilized for our own soldiers. When a concentrated solution of formalin is applied to the feet a few times, the feet do not sweat again for two or three weeks, even though woolen socks are worn. He recommends that undiluted formalin be penciled over the feet three or four times at intervals of about six hours, and that four or five drops of the same fluid be dropped into the boot to disinfect it and to protect the leather. Thus applied it is not only a prophylactic but it enables soldiers who habitually suffer from sore feet to march without difficulty. Even though the feet be blistered it hardens the softened tissue and makes walking painless. The writer holds that it produces no constitutional or local destructive effect. If his claims be true, and theoretically they seem quite plausible, it behooves Surgeon-General Sternberg to provide his department with the facilities for utilizing a measure which can give so much comfort for a trifling outlay. Next to profound derangement of his alimentary canal, there is probably nothing that destroys a soldier's morale more completely than sore feet. If they can be kept intact by the use of formalin as described by Gerdeck, this author becomes the soldiers benefactor and legions of them will call him blessed.

DRUGGISTS AND DOCTORS.

IF there is a subject of more than ordinary interest to the followers of medicine and pharmacy it is the relation which exists between them in connection with the writing of prescriptions, counter-prescribing, and the dispensing of medicines by the physician himself. There is scarcely a prominent druggist in any large city who is not ready to pour out his tale of woe to the effect that both in the country and in the city physicians are daily prescribing, more and more frequently, directly for their patients without calling in his pharmaceutical aid. The average physician, on the other hand, is loud in his complaint that pharmacists are continually prescribing for persons over their counters and thereby preventing the physician from receiving the fee for medical

advice to which he is entitled. Because of the fact that large manufacturing concerns place medicinal preparations ready for dispensing in the hands of physicians these manufacturers are regarded with a jealous eye by the retail pharmacist.

The questions we have raised are of vital importance, particularly to the druggist. At a recent meeting of the County Medical Society in Philadelphia a number of druggists who were asked to be present, urged upon the members of the Society that they should prescribe compound remedies, the formulæ of which are given in the publication known as the "National Formulary," and an evident endeavor was made to wean physicians back to the old habit of writing "shotgun prescriptions" for every patient. There is a good deal to be said on both sides of this subject, and one's point of view depends largely upon the question as to whether he is a physician or a druggist. There is certainly no objection whatever, except the personal interest of the druggist, to the physician dispensing well-made medicinal substances to his patients. On the other hand, aside from business reasons, there are very grave objections to the druggist prescribing for patients over his counter; for in the latter instances there is lacking that knowledge which is necessary for the proper treatment of disease, while in the former case the pharmaceutical side of the question has been attended to by the manufacturing chemist before the drugs pass into the physician's hands.

As if for the purpose of carrying the war into Gaul, the Philadelphia College of Pharmacy has recently decided to confer the degree of Doctor of Pharmacy upon its graduates, having found, apparently, that the old-fashioned title, Graduate in Pharmacy, is not suitable for this advanced age in which even patent-medicine venders and chiropodists are entitled to the title of Professor.

The recent conferring of the degree of Doctor of Pharmacy by this College upon a large body of graduates has called forth an amusing criticism upon the part of the *Medical Press* and *Circular* of London, in which after sadly deploring the disgrace into which the terms Professor and Doctor have fallen the editor calls attention to this recent action in Philadelphia "in which eighty-seven students of pharmacy received the degree of Doctor in Pharmacy with a pretty hood, the subject of examination being compounding medicine and wrapping up bottles." While we cannot subscribe to the subsequent caustic but unbecoming comments of the editor, we confess to a feeling of wonder as to what class of men are next to receive the honorable title of Doctor.

ECHOES AND NEWS.

The Unsanitary Oath Abolished in Maryland.—The form of the judicial oath in Maryland has been simplified, and the "kissing of the book" has been abolished.

Appropriation for Johns Hopkins University.—The Maryland State Legislature has appropriated $400,000 to this institution to tide it over its financial straits, due to the loss sustained in the default of the Baltimore and Ohio Railroad.

Birds to Produce Tuberculosis Antitoxin.—Professor E. Behring claims that he has discovered a method of avoiding the injurious after-effects of horse and other animal serum, to which consumptives seem particularly sensitive. He substitutes the serum of birds.

New York Hospital Improvements.—In addition to the proposed $300,000 annex to the New York Hospital building, further improvements are to be made. These include a six-story ambulance and laundry building to cost $90,000, a two-story governor's building to cost $80,000, and alterations and repairs to the present hospital building which will cost $30,000, making a total of $500,000.

Officers of the American Association of Genito-Urinary Surgeons.—At the meeting of this Association, held at Cranston's Hotel, West Point, June 7 and 8, 1898, the following officers were elected for the ensuing year: President, Dr. James Bell of Montreal; vice-president, Dr. Samuel Alexander of New York; secretary and treasurer, Dr. Wm. K. Otis of New York. It was decided to hold the next meeting at Niagara Falls, in May, 1899.

Honorary Degrees To Be Conferred on Medical Men.—At the International Zoological Conference, to be held in Cambridge in August, the honorary degree of D.Sc. will be bestowed on Dr. Henry P. Bowditch, Professor of Physiology in the University of Harvard; Dr. Camilio Gogi, Professor of General Pathology in the University of Pavia; Dr. Hugo Kronecker, Professor of Physiology in the University of Berne, and Dr. Willy Kuhne, Professor of Physiology in the University of Heidelberg.

University of Vermont.—At the meeting of the Faculty of the Medical College of the University of Vermont, held June 22, 1898, Dr. A. P. Grinnell was retired from the office of dean, which office he has held for the past twenty-four years, and Dr. H. C. Tinkham of Burlington, Vt., now occupying the Chair of Surgery and Anat-

omy at the College, was elected his successor. It is reported that the medical students of the college have protested against the action of the Faculty in removing Dr. Grinnell.

Deaths from Diphtheria and Croup in New York City.—The following statement announced by the Board of Health shows the steady decline in the number of fatal cases of diphtheria in the Buroughs of Manhattan and the Bronx during the first twenty-four weeks of each of the following years: 1894, 1657; 1895, 1090; 1896, 1122; 1897, 913; 1898, 524. Deaths from diphtheria during the week ending June 4th, 10. For the week ending June 11th, 9. Corresponding weeks of last year, 37 and 39 respectively.

Illness among Naval Officers.—It is said that the hospital ship "Solace" will bring home on her next trip a number of naval officers who have succumbed to the strain and have been obliged to give up. The officers on monitors suffer most because of the terrific heat below decks, although the battle-ships and cruisers are not much cooler. On board the monitors the heat in the engine rooms reaches 160° F. and is never below 125° F., and the temperature of the apartments in which the officers sleep is usually about 110° F.

Resolutions of Thanks to the Late Professor Page.—At the end of the winter course of instruction in Physical Diagnosis, given to the students of the New York Polyclinic by the late Professor R. C. M. Page, the students passed resolutions extending to Professor Page their sincere thanks for the kind, courteous, and able manner in which he had conducted the class, and tendered him their best wishes for his continued success and happiness, with the hope that his teachings and the principles set forth by him might be handed down to future generations of all who desire a thorough knowledge of medicine.

A Strange Hallucination.—A report is going the rounds of the secular press, and has also found its way into some prominent medical journals of the country, announcing that Dr. Simmons had met with a serious accident while operating recently at the New York Polyclinic Hospital. The authorities of the Polyclinic Hospital announce that no surgeon by that name is now or ever has been connected with that institution. Moreover, that no such accident as described has occurred in that hospital; in other words, the whole story is a hoax, and must have been evolved from the inner consciousness of some dreamer.

Changes in the Faculties of the New York Medical Schools.—Drs. Austin Flint, Frederick C. Dennis, and Samuel Alexander have resigned their positions in the Faculty of the New York University Bellevue Medical School, and have accepted like positions in the Faculty of the Cornell University Medical School. Their places in the former institution have been filled respectively by Dr. Graham Lusk, Professor of Physiology; Dr. B. Farquhar Curtis, Professor of Clinical Surgery, and Dr. L. Bolton Bangs, Professor of Genito-Urinary Surgery. Dr. Christian A. Herter has also been appointed Professor of Pathological Chemistry in the same institution.

The Claims of Osteopathy Exposed.—The secretary of the Illinois State Board of Health, Dr. J. A. Egan, announces in a circular letter over his signature that the assertion made in a circular issued by a concern in Chicago claiming to teach the alleged science misnamed osteopathy, is a lie in the fullest acceptation of the term. This institution advertised that its "Terms of study are so graded and the courses of study so broad and complete, that they comply with all the requirements of the Illinois State Medical Board, and allowed our students two-years' credit on the regular medical education. These credits are recognized in any medical college in this country, and will be equivalent to two-years' work done there." Dr. Egan also declares "It is not true that the 'credits' named are recognized in any medical college in this country."

CORRESPONDENCE.

LETTER FROM GLENWOOD SPRINGS, COL.

[Special Correspondence of the MEDICAL NEWS.]

THUS far has the medical host advanced into this friendly country, and although many individual trips beyond this point have been planned, Glenwood Springs is the Ultima Thule of the representative multitude. And a worthy objective point and a delightful resting-place it is.

The determining factor in selecting Denver as the place of meeting of the American Medical Association, and the attractive scientific feature of the brief sojourn of the members themselves, was the opportunity afforded of securing at least a baptism in the brilliant sunshine and rarified air of Colorado's vaunted climate. This, however, was not afforded during the three days in which the Association was in session. The weather of this favored clime seems to be determined with the regularity of clockwork. Statistics show that for twenty years the first week in June has been wet and rainy. This year afforded no exception, and every afternoon brought its thunder-shower. But to those who tarried for the various excursions an opportunity was afforded of experiencing all the glories that had been anticipated. The air is clear and transparent, the sunshine bright and even hot, and an invigorating quality is in every inhalation. The two markedly noticeable qualities of the air are rarity, occasioned by the altitude, thus facilitating expansion of the lungs, and dryness. The city of Denver is just one mile above sea level; its air is sufficiently rarified to be painfully apparent to many of the visitors upon only slight exertion, resulting in palor of countenance and sighing respiration. This gradually wore off as the days advanced.

Living witnesses to the health-giving qualities of the climate were on every hand. Every one with whom we conversed, from the judge on the bench to the cab-driver at the railroad station, originally came to this country to recover from the ravages or the invasions of tuberculosis. In local parlance they are all "one-lungers." With

one notable exception, all the medical profession of Denver belong to that class, and yet, as a rule, a browner, better nourished, more vigorous body of men would be difficult to find in the medical profession of any community. No greater error, however, could be entertained than to infer that every phthisical patient who comes here is cured. One of the delegates, a doctor from Pennsylvania, sadly confessed that Colorado climate had failed to cure his daughter, and after a trial of four years, he was compelled upon his return to take her home with him, a hopeless invalid. Many similar experiences could be narrated. Indeed, it is an accepted principle that only those phthisical patients who are in the incipient stage can hope for benefit by a residence in Colorado. Of the latter class, striking demonstrations of the prompt and curative effect of the climate are to be met, with surprising frequency. At Colorado Springs a young man from New York had, after three-weeks' residence, gained two and a half pounds in weight, and recovered entirely from the periodical rise in temperature and night-sweats from which we saw him suffering at the time of his departure from sea level four weeks since.

To an invalid who cannot participate in any physical or mental effort, the expense of living in a chosen locality is an important one, and in Colorado living is expensive. The economic law that prompts the farmer to send all his best products to market applies to Colorado, and the bountiful supply of milk and beef, which promptly suggests itself to the would-be sojourner here, vanishes upon the presentation of the check for his first meal. The small farmer has learned long since that he cannot compete with the great ranchman, and does not try, and all the products of the great ranchmen go to the Eastern markets in wholesale routine fashion. Indeed, one of the Denver physicians remarked in conversation that if he wanted an especially fine piece of beef for his table it must come from Chicago. That, of course, means expense. At Colorado Springs rents are high and table-supplies costly. The result is that only those who have abundant means can secure the nourishment they need, and the less favored ones who go there for their health are in danger of languishing sooner or later in some ill-kept, poorly-supplied boarding-house. One redeeming feature of this condition is that a man, as soon as he is strong enough, can usually find some out-of-door employment. What opportunities of this character are open for women did not develop.

A recent comer remarked, "For a man of financial means, who is afflicted with phthisis, this country is a perfect paradise. He has the consciousness of feeling that he has placed himself in the best possible environment for his recovery, perhaps the satisfaction of knowing that he is steadily improving, and has within easy access numerous points of inexhaustible interest to beguile his time." And all this is true as we have had abundant opportunity of observing in the many delightful excursions which have been made to the various cañons, mining-camps, and mountain-tops. The beauty, the grandeur, the inexhaustible mineral wealth of these Colorado mountains are features that impress one at every turn. But no pen or brush can do them justice. They must be felt and allowed to sink into the mind and soul to work their grand and ennobling influences. The climax of excursions was reached in the full day trip over the Midland Railroad amid ever-increasing grandeur of mountain scenery, including the Hagerman Pass over the continental divide of the Rockies, from Colorado Springs to this inviting health-resort. But the natural attractions of Glenwood Springs and the curative qualities of its healing waters must be left for a future letter.

JUNE 15, 1898.

OUR PHILADELPHIA LETTER.

[From our Special Correspondent.]

RESIGNATION OF THE PRESIDENT OF THE COUNTY MEDICAL SOCIETY—REPORT OF ORTHOPEDIC CASES—NEURASTHENIA IN RELATION TO GYNECOLOGIC CONDITIONS — GRADUATION EXERCISES OF THE PENNSYLVANIA DEAF AND DUMB INSTITUTION—PENNSYLVANIA PHARMACEUTICAL ASSOCIATION—PERSONAL NOTES—PROFESSOR STEPHENS' ARREST—HEALTH-BOARD STATISTICS.

PHILADELPHIA, June 28, 1898.

AT a meeting of the Philadelphia County Medical Society, held June 22nd, the resignation of Dr. Edward Jackson, President of the Society, was read and accepted. Dr. Jackson leaves the city to reside permanently in Denver, Colorado. Dr. S. Solis-Cohen, first vice-president, will conduct the meetings during the rest of the year as vice-president, for, if elected president during this term, he would be debarred from again acting as such.

Dr. James K. Young exhibited a number of cured orthopedic patients who had presented lesions of the spine, knee, and hip-joint. Among the number were two cases of arthritic hip-disease with recovery so complete as to enable them to show the three so-called "test positions." Another case, that of a man with tuberculosis of the elbow-joint, showed a remarkably good result from treatment by fixation and injections of iodoform.

Dr. J. M. Fischer presented a specimen from an ectopic gestation, which, he said, was the fourth he had had in the last month or so. So many similar reports are heard on every side that it brings up the question of the cause for the increase of this condition; either physicians have improved in their diagnoses or the ever increasing number of gynecologic operations is bearing fruit.

Drs. F. Savary Pearce and H. D. Beyea presented a paper on "Neurasthenia; Its Relation to the Physiology and Pathology of the Female Generative Organs." Dr. Pearce, who read the paper, believes that there is an intimate relation between the nervous condition of a patient and the condition of the uterus and its appendages; that gross lesions produce neurasthenia less often than do mild ones; that gynecologic conditions are the chief factors in the causation of hysteria, epilepsy, and insanity. He believes that some cases of neurasthenia are essential and not sympathetic, however, and advises in all cases treatment of the nervous condition *per se*, as well as the local treatment, whatever it may be. Dr. Shoemaker believes that it is a common mistake for the gynecologist to ignore treating the nervous condition and for the neurologist to

ignore the gynecologic treatment; he believes in a combination of the two and above all absolute rest.

Dr. Faries quoted from his personal experience two cases of insanity in which the patients were operated upon for gynecologic conditions. In one case reason was restored, while in the other there was no benefit though the cases were identical. This experience leads him to believe that we are still groping in the dark as to the relation of nervous phenomena to pelvic disturbances.

Dr. Fischer said he believed there were some cases of essential neurasthenia associated with gynecologic conditions but he would like to know how to distinguish these cases from sympathetic neurasthenia. Dr. Eshner claimed the environments of the patient and her previous health are the diagnostic guides in these cases.

Nineteen new members were elected, after which the Society adjourned until its next meeting, September 14th.

The graduation exercises of the Pennsylvania Institution for the Deaf and Dumb, at Mt. Airy, were held on Tuesday, June 21st. They were of unusual interest, because during the past year a large number of pupils have acquired the power of articulation, and some the complete power of speech. Owing to the illness of Dr. John H. Brinton, Miss Morris distributed the prizes in place of Mrs. Brinton, who takes a good deal of interest in this work for the deaf and dumb.

The Pennsylvania Pharmaceutical Association held its annual meeting at Waynesboro, June 23d. Dr. Joseph P. Remington of Philadelphia read a report of the work accomplished by the International Association of Pharmacists, held at Brussels, to which he was delegate from the United States. The following officers were elected: President, M. N. Kline, Philadelphia; vice-presidents, Louis Emanuel and D. J. Thomas; treasurer, J. A. Miller; secretary, J. Lemberger.

Dr. William H. Wells, now Adjunct Professor at the Philadelphia Polyclinic, has been appointed Instructor in Obstetrics at Jefferson Medical College.

Dr. J. H. Musser has returned from Maryland, where he read a paper on "Heart Disease" before the Tri-State Medical Association of Western Pennsylvania, Western Maryland, and West Virginia.

Dr. S. Weir Mitchell, contrary to his usual custom, will not go abroad this summer, but will stay at Bar Harbor.

The local Red Cross Society raised a large amount of money this week by an entertainment at the Academy of Music, which consisted of historical tableaux.

The arrest and subsequent confession of George H. Stephens, last year a professor in Lafayette College, has interested the medical men of Philadelphia this week. From the burning of Pardee Hall last December unti his arrest, Stephens has perpetrated a series of acts which it is hard to attribute to a man supposed to have any moral responsibility. These deeds of vandalism were a part of his plan of revenge for having been dismissed from the college for inefficiency last year, and now that he is arrested no doubt money will be used lavishly to prove him mentally irresponsible, for he is well connected and his relatives are wealthy—an opportune time for the "expert" to step in.

The total number of deaths in this city as reported at the Health office for the week ending June 25th, was 387, of which number 152 were of children under five years of age. There were 177 new cases of contagious disease reported, as follows: Diphtheria, 63, with 12 deaths; scarlet fever, 23, with 1 death; typhoid fever, 91, with 7 deaths.

Saturday ushered in the usual summer victims, fifteen prostrations from heat being reported.

OUR FOREIGN LETTER.

[From Our Special Correspondent.]

WANDERING TROUPES OF FOREIGNERS AND CONTAGIOUS EXANTHEMATA—SMALLPOX IN BERLIN—PROFESSOR SENATOR ON VARICELLA AND VARIOLA AND THEIR RELATION TO EACH OTHER—GERMAN OPINIONS, POPULAR AND MEDICAL, AS TO THE HISPANO-AMERICAN WAR.

BERLIN, June 18, 1898.

A TROUPE of negroes from Koto, one of the German South African Colonies, has been on exhibition for some time at one of the museums in Berlin. An exanthematous disease made its appearance among its members that for some days puzzled the diagnostic ability of the German physicians unaccustomed as they are to seeing eruptions on dark skins. The affected ones were promptly segregated, however, even before the diagnosis was assured, and the result justified the precautions since the affection turned out to be smallpox. Among the troupe so far some fifteen cases have occurred, the first time that so many cases have been in Berlin in many years. How little solicitude the occurrence of the disease has evoked may be judged from the fact that Professor Senator invited his class, consisting of more than 100 students, to come with him to the Institute for Infectious Diseases to see and study with him a case under his care there. No special precautions were taken and students were allowed to approach and see and even feel the lesions. Those who had not been vaccinated within recent years were warned of their danger and advised not to come. Evidently the Germans have unbounded faith in the value of vaccination, and the statistics of Berlin since the enforcement of the universal vaccination requirements would seem to justify them, for, as I have said before, Berlin's mortality and morbidity from smallpox compared to that of Paris, where vaccination is advised but not required, is practically *nil.*

These wandering troupes of people from lands where vaccination is unknown are always the subject of special watchfulness as regards smallpox outbreaks here in Germany. The well-known liability of the disease to spread to all the members of the troupe and to occur in the severer forms which are scarcely ever seen any more in Europe has been often a subject of remark. Whether these people have a special liability owing to their being a virgin soil or whether the Europeans after generations of vaccination have acquired a certain constitutional resistance to the disease is not clear. Certain it is that the wandering of such people is considered to constitute a special source of danger in the carrying about of virulent

forms of the disease and in their liability to contagion on the slightest exposure when Europeans escape entirely. A troupe of Eskimos wandering through Europe on exhibition some years ago were all carried away by smallpox.

The day before Professor Senator received his first case of smallpox he had some cases of varicella, ordinary chickenpox, in his polyclinic, *i. e.*, dispensary or out-patient department. In the course of his talk on the disease he said that he had for years held Heberden's opinion that varicella and variola are entirely distinct and independent diseases. He stated very forcibly the reasons for holding such an opinion, especially insisting on the failure of varicella to immunize against variola and on the failure of vaccination to protect against varicella and then added that notwithstanding all this he had come to believe in these later years that Hebra's opinion, that the two diseases are identical, varicella being only a very mild form of variola, is the correct one. He says that he has noted a number of times in his polyclinic (out-patient) work here in Berlin (he has an immense out-patient service), that whenever there was an epidemic of varicella among the children he would either know of or hear shortly of some cases of smallpox having occurred in the city and usually in the quarter of the town where the smallpox had been found. At the moment he said he knew of no smallpox cases in town but he would not be surprised to hear of them. The opportunity to show the smallpox cases to the class occurred next day when he recalled what he had said the day before. Under the circumstances the incidents were calculated to produce a most lasting impression.

Senator considers that generations of vaccination and the intermixture of elements rendered immune to smallpox because the progenitors had had the disease, have lessened susceptibility to the virus of the disease to such an extent that this larval and abortive form is the result of an infection that under other circumstances would be true smallpox. That the slight reaction of the organism to the disease should not be sufficient to produce that profound tissue change which constitutes immunity to the disease in a virulent form does not seem surprising. The virulency of the affection is so slight in its masquerade form of varicella that as a rule only children are affected by it, the more vitally resistant adults escaping it.

The Vienna Dermatological School have always continued to hold Hebra's opinion in the matter despite the almost universal acceptance of the great English clinician Heberden's opinion by the rest of the medical world. Kaposi still teaches it though it is a matter of genuine surprise to hear of an old experienced clinician like Senator being converted to an opinion that seemed to still have a place in medical literature only because a great man's school did not care to give up the favorite teaching of their great master. As Senator says, only the discovery of the cause of the two forms of disease can settle the question.

Of course the Spanish-American war is the great subject of present interest even over here. Almost naturally one would say German popular opinion has been in favor of the weaker of the combatants to the no small annoyance of the resident Americans. At several of the universities there have even been public protests on the part of American students against the unjust light in which American interference in the Cuban question has been placed. Another thing that has been a source of considerable annoyance has been the immediate acceptance by German newspapers of the reports of war operations emanating from Madrid. American newspaper accounts are always scouted as either fictitious or exaggerated, while Spanish information was looked upon as authentic. They have not learned to properly discount Spanish war news, for as very little attention has been paid to the Cuban insurrection they have known nothing of the training acquired by the Spanish authorities in this matter.

Only the German medical men have, I think, realized to some extent that the war is not one of conquest nor dictated by lust of dominion but is a nation's protest against the further oppression of a long-suffering people. Their comprehension of the true state of affairs, defective though it is, is a pregnant sign of that broad-minded sympathy with humanity that characterizes the profession the world over and that is drawing into closer brotherhood the elements in modern social life whose purposes are the good of humanity and the relief of suffering under all circumstances. Meantime, as it has become clearer that the war is not to last so long after all, and success has attended the American arms, German sentiments are materially changing. People who worshiped the Setting Sun have been remarkably few in history, and the Germans are least of all likely to care to be of the number. A comic paper cartooned German public opinion at the beginning of the war as a prophetess unable to see who was to be the victor in the conflict, but able to foresee one thing very clearly, that whoever would be the victor would receive a telegram of congratulation from Berlin. *Ridentem dicere verum, quid vetat?*

TRANSACTIONS OF FOREIGN SOCIETIES.

Berlin.

THE CURATIVE ACTION UPON FIBROMYOMATA OF LIGATION OF THE UTERINE ARTERIES—USES OF IODVASOGEN—VENESECTION IN CHILDREN.

GOTTSCHALK read a paper before the Medical Society, March 30th, on "The Curative Effect of Ligation of the Blood-vessels upon Uterine Fibromyomata." Rydygier carried out this idea by performing laparotomy, but it did not find much favor, for the reason that it was almost as dangerous as the removal of the growths. The vaginal operation, however, is absolutely without danger, and is carried out as follows: After curettement a transverse incision is made around the cervix, the bladder is pushed back from the vagina and broad ligaments, and the posterior vaginal vault is also pushed away from the broad ligaments, until the ligament containing the uterine artery on either side is freely exposed. This is ligated as close as possible to the uterus by three interlocking ligatures on each side. In this manner not only the chief artery, but its adjoining branches, are included in the ligatures. The peri-

toneal cavity is not opened. The ligatures are then cut short, and the incision in the vaginal vault is sutured. Twenty patients operated upon by this method all recovered. The operation is often followed by rather severe pain, which may have to be controlled by morphin. This lasts only a few days, and the patients are up and about in ten days. In nineteen of the twenty cases there was present obstinate hemorrhage, which medical measures and curetting had failed to relieve. In all cases except one the bleeding stopped at once, and did not recur. The strong pains which are produced by the ligation of the blood-vessels crowd intramural myomata, either within the uterus, where they may be expelled, or outside of its muscular coat, where as subserous tumors they give rise to no more trouble. This explains why the operation fails to give relief in hemorrhage associated with the menopause. In fourteen of the patients treated by this method the tumors had palpably shrunk, while in seven they were no longer to be made out.

DUHRSSEN advocated in place of ligation of the arteries the method of Sneguireff of bringing live steam into the uterine cavity. By this means, without operation, without narcosis even, in three minutes the lining of the uterine cavity is completely destroyed, and all possibility of a recurrence of hemorrhage is thereby removed. In young persons the application of the steam is made very short, so that the mucous membrane is shriveled, but not entirely destroyed. This treatment has proved efficacious in a long series of cases, and seldom has it been necessary to repeat it.

In reply Gottschalk said that vaporization is at best a symptomatic treatment, as it does not remove the myomata nor cause their atrophy. Moreover, it destroys the function of the uterus as a child-bearing organ.

At the session of May 4th, FRIEDLAENDER spoke of his experience with iodvasogen, an oxygenated vaselin containing six per cent. of iodin, and which he had used externally in eighty-one cases, and internally in fifty-one cases. Some of the cases in which cures resulted from external application were old ulcers, scrofulous eczema, eczema capitis, periostitis, ulcer of the cervix, pleuritic pain, and obstinate bronchitis. To most of the patients the remedy was also administered internally. It failed to give relief from the pains of neuritis, flatfoot, and chronic rheumatic arthritis. Its internal administration was successful in goiter, pleurisy, rheumatism, scrofula, syphilis, and bronchitis. It failed in whooping-cough, chronic rheumatoid arthritis, advanced Graves' disease, arteriosclerosis with asthma, phthisis, and cardiac diseases. The effect of iodvasogen in improving the appetite was striking. It also allayed vomiting of pregnancy. The dose when given internally, was from 5 to 30 drops, in milk, tea, or coffee, three times daily. Externally, from 10 to 30 drops were rubbed into the skin three times a day. Its absorption is shown by the presence of iodin in the urine within two or three hours after the application of the iodvasogen. Externally it is much better borne than tincture of iodin.

BAGINSKY read a paper on "Blood-letting in Children," in which he regretted that for the last twenty years text-books on diseases of children have ignored venesection and leeches. He gave the details of three cases to show that the abstraction of three or four ounces of blood had saved the lives of one child suffering from badly compensated heart-disease, and of two others cyanotic from chronic bronchitis. In other patients venesection was followed by an improvement which was only temporary, because the organism, although freed by the blood-letting from the mechanical obstruction to circulation, had not sufficient power to overcome the intoxication of the disease itself. Owing to the difficulty in finding and opening a vein in a child, it is better to divide the skin and dissect the vein free before opening it. Baginsky also advocated the application of leeches to children suffering from eclampsia, whether simple or uremic. In simple spasms the use of other remedies, baths, douches, choral, chloroform, bromids, etc., is generally sufficient to cure the trouble. Nevertheless, that the abstraction of blood from the head by leeches will give prompt relief, is no cause for surprise when one remembers how distended the visible cerebral vessels are under these circumstances. And if this is true of simple spasms, how much more so of uremic convulsions.

Vienna.

NEW METHOD OF MEASURING THE VOLUME OF THE LUNGS—DILATATION OF THE CYSTIC END OF THE URETER—NEPHRITIC INDICATIONS OF OBSTIPATION—TREATMENT OF LUPUS WITH HOT AIR—RECURRENCES OF MALIGNANT TUMORS AT LONG INTERVALS — REDUCTION OF A STRANGULATED HERNIA A CAUSE OF INTESTINAL OBSTRUCTION—CAUSES OF DEATH FROM DIPHTHERIA BEFORE AND AFTER THE USE OF SERUM.

BASCH demonstrated a new method of measuring the volume of the lungs before the Imperio-Royal Society of Physicians, April 22d. This method is based on Mariotte's law of the relation between the volume and pressure of any given quantity of gas. If the volume of gas which it is desired to investigate be reduced by pumping other gas into the chamber, until a certain pressure is obtained, its amount can be estimated by pumping the same amount of additional gas as was added in the first case, into a receptacle of such a size that the same pressure will be obtained. To apply this method to the lungs this test-receptacle must be elastic and of about the same power of resistance as the lungs. The pressure is obtained with a mercury manometer, and the air is pumped into the lungs through a tube fitting tightly into one nostril, while the other nostril and the mouth are tightly closed. Tests upon dogs, which were afterward confirmed by the removal of the lungs, showed the accuracy of this method of estimating the pulmonary capacity.

ENGLISCH spoke of pouched dilatations of the cystic end of the ureters, and showed a specimen from a patient aged thirty years, who was greatly troubled with cystic tenesmus with enlargement of the prostate, though with little residual urine. The amount of sediment varied greatly. No definite tumor could be felt in the region of the kidney or ureter, though there was a feeling of greater resistance over the lower portion of the urete rof

the right side, and tenderness. Pressure on this region, as shown by cystoscopic examination, caused the escape of urine in a small stream. The patient refused operation, and died in a short time. The pelvis of the right kidney was found to be much dilated, while the whole ureter was as large as the small intestine, and presented at its lower end a large pouch-like formation, which extended to the middle lobe of the prostate. The opening itself was very small.

There have been recorded in medical literature thirteen cases of similar trouble, most of them occurring in women. If the pouch is a small one it may extend like a hernia into the bladder, or even into the urethra, where in women it has even been visible at the external orifice. Pressure in the renal area will make the cyst grow tense, especially if the opening into the bladder is closed. The anomaly has usually been looked upon as congenital, and it is so regarded by the speaker, who attributed the formation of a pouch to the presence of adhesions in the walls of the ureter, as is seen in other tubes.

KOBLER discussed the nephritic symptoms due to obstipation. In Sarajavo he had an opportunity to observe many cases of dysentery, and in the period of obstipation which followed the diarrhea, symptoms of renal irritation—albuminuria, with or without renal elements—frequently developed. The same is true of Asiatic cholera. It was long ago pointed out by Senator and others that intestinal obstruction, invagination, etc., often produces albumin, casts, and renal epithelium in the urine. It is, of course, necessary, to know that a previous kidney difficulty did not exist before drawing a strong inference from such an albuminuria. The colic which accompanies the obstipation has much to do with the production of albuminuria. By a daily examination of the urine in these cases it was possible to say on what days there were colicky pains and upon which days there were none.

At the session of May 6th LANG said that he treated lupus with hot air with good results. A tube from which the hot air comes is held at less than half an inch from the surface of the skin, which can support without much pain air of from 200° to 300° C. A yellowish-white eschar is at once produced, the irritation spreading laterally as well as into the depths of the tissue. When this comes away there forms a healthy cicatrix, or if some spots of lupus remain the treatment may be repeated. This method of treatment is especially recommended for lupus erythematosus, a form which is not amenable to the present modes of treatment.

FRANK spoke of the freedom from recurrence of malignant growths long after their removal, showing a patient who had come to him for prolapse of the anus eight years after Kraske's operation had been performed for carcinoma of the rectum. There was no sign of recurrence.

ALBERT said that even eight years are too few to give perfect security, for recently he saw recurrence in a similar case ten years after the operation.

WEINLECHNER had seen a recurrence of carcinoma of the tongue thirteen years after its removal. Such a long interval leads to the view that the "recurrence" has nothing to do with the original tumor, but that the individual is predisposed to the development of malignant growths.

The study of 104 cases of carcinoma, subjected to operation, convinced HOCHENEGG that the character of the operative effort had nothing to do with the question of recurrence. The latter was, in his opinion, simply a continuance of the unremoved portions of the growth.

SCHNITZLER extirpated a portion of a sarcoma of the sole of the foot, amputation being refused. The wound healed, and some time afterward there developed in the scar a small tumor, which the patient permitted him to remove, again refusing a more radical operation. This was microscopically diagnosed as round-celled sarcoma.

EWALD mentioned a case of carcinoma of the uterus, which was so extensive that a part of one ureter was removed, a nephrectomy following. It was supposed by all that the patient would die in a short time of continuation of the growth. She lived six years without sign of recurrence, and then died of embolism of the remaining kidney. In the scar tissues of the hysterectomy were found portions of the carcinomatous tumor, which had remained quiescent.

At the session of May 13th, SCHNITZLER narrated an instance in which a painless reducible femoral hernia became strangulated. Three hours later it was reduced by taxis, but from that time on, whether it was reduced or not, there was a great deal of pain, and frequent attacks of colic and tympanites. Operation showed a portion of the ileum about five inches in length to be so thickened that it was resected. Its lumen was fairly well preserved, however. The intestine above was much distended, and there was contraction at both places where the ring had pressed on the bowel, the lumen at these points being very small, and the mucous membrane destroyed. Other cases similar to this have been recorded, but in all of them the duration of the strangulation before reduction of the hernia has been much longer.

KRETZ compared the autopsies of patients who have died from diphtheria since the general use of serum with those of the preserous period. While in those days the majority of the deaths were due to the simple uncomplicated diphtheritic processes, in these days this class of autopsies has become rarer, while late deaths from paralysis of the heart and so-called postdiphtheritic tabes have become relatively and absolutely more frequent. The explanation of this is that many patients who without serum would have fallen victims to the early lesions, are saved by the serum from them, but succumb to the later lesions. That the heart failure is not due directly to the action of the serum is shown by the microscopical examination of the muscles of the heart. The changes therein are identically the same as those which occur in the hearts of patients who have received no serum. There are also no alterations in the kidneys which can be traced to the action of the serum.

A French Law.—One of the provisions of the French Code forbids a physician to inherit property left him by a deceased patient.

SOCIETY PROCEEDINGS.

AMERICAN MEDICAL ASSOCIATION.

Forty-ninth Annual Meeting, Held at Denver, Col., June 7, 8, 9, and 10, 1898.

[Specially Reported for the MEDICAL NEWS.]

(Continued from page 830.)

GENERAL SESSION.

THIRD DAY—JUNE 9TH.

THE Association met at 11 A. M., with the Fourth Vice-President, DR. HAPPEL, in the chair.

The report of the Board of Trustees was read by DR. GARCELON of Maine. He said that the Association was to be congratulated on its growth and prosperity. The Board noted with pleasure that the leading medical colleges are lengthening their curriculum of instruction. Reference was made to the growth of the Journal from 1883, when the experiment was first tried of publishing a weekly, to the present time. The first issue of volume I. was circulated July 1, 1883, and 3500 copies of that date were printed, being largely in excess of the membership of the Association. At this time the membership, including both delegates and permanent members, did not exceed 1500. During the succeeding years the growth was slow, during 1887 there being an increase of but 161. Since then the membership has materially increased, as well as the general circulation of the Journal. The appearance and general make-up of the Journal are highly satisfactory. Viewed as a medical newspaper, it now undertakes to publish everything in current news that will interest the physician. A financial statement of the Journal for the fiscal year followed, ending December 31, 1897, showing a balance on hand of $14,092.85. To the report was appended an inventory of the Journal property. The balance in the treasury is so satisfactory that the Board had directed an additional $10,000 to be placed to the credit of the investment fund created by the Association in 1896 for the purpose of providing a permanent building for the home of the Journal. In accordance with the recommendation the Board has become an incorporated body and now has definite standing as a legal corporation. In conclusion the Board recommended that each member make a renewed effort to increase the membership, encourage subscriptions, and extend the good influence of the Association for the advancement of medical knowledge and the general welfare of the profession.

On motion the report was ordered printed and Dr. Garcelon was extended a vote of thanks for reading it.

DR. GIHON reported on behalf of the Rush Monument Fund that he had received nearly $12,000.

DR. U. O. B. WINGATE of Milwaukee read the report of the Special Committee on Department of Public Health. The bill, already familiar to the profession, was referred to and its salient points outlined. The report closed with the following resolutions:

Resolved, That the committee be continued, that the bill as now perfected and before Congress be approved, and that the Committee use its best endeavors to have it passed by Congress.

Resolved, That the members do all in their power to urge upon their Representatives the passage of the bill.

Resolved, That the Association appropriate the sum of $1000, or so much thereof as may be necessary, for the use of the Committee in the endeavor to have this measure passed.

On motion the report was referred to the Executive Committee with power to act.

DR. H. O. WALKER of Detroit read the report of the Committee on Nominations as follows: President, J. M. Matthews of Louisville; first vice-president, W. W. Keen of Philadelphia; second vice-president, J. W. Graham of Denver; third vice-president, H. A. West of Galveston; fourth vice-president, J. E. Minney of Topeka; treasurer, Henry P. Newman of Chicago; librarian, George W. Webster of Chicago; trustees, Alonzo Garcelon of Maine, T. J. Happel of Tennessee, I. N. Love of Missouri; to fill vacancy, H. L. E. Johnson of the District of Columbia. Members of Judicial Council: S. S. Bailey of Iowa, D. R. Brower of Illinois, H. D. Didima of New York, D. Mason of Washington, F. T. Rogers of Rhode Island, M. B. Ward of Missouri; to fill vacancy, W. S. Jones of New Jersey. General addresses: on medicine, J. C. Wilson of Pennsylvania; on surgery, Floyd W. McRae of Georgia; state medicine, D. R. Brower of Illinois. Place of meeting, Columbus, O., June 7, 8, 9, and 10, 1899; chairman, committee of arrangements, Starling Loving of Columbus; assistant secretary, E. W. Woodruff of Columbus. On motion the report was unanimously adopted.

The Executive Committee reported through its secretary, Dr. Bulkley, that under the existing laws of the Association it did not feel competent to recommend the adoption of the suggestions contained in the President's address.

Relative to the Rush Monument Fund, the Executive Committee endorsed the nomination of Dr. Henry D. Holton as treasurer, as recommended by Dr. Gihon in his report at a previous general session. This recommendation was adopted by the Association.

The Executive Committee had examined the treasurer's report and had found it correct and the books neatly kept.

The Executive Committee recommended the adoption of the resolution offered by Drs. Dudley S. Reynolds, W. W. Keen, George M. Gould, and William Bailey, and their action was ratified by the Association.

As to the Hare resolution, in relation to admitting the New York State and New York County Medical Societies, the Executive Committee reported that while it was fully in sympathy with and endorsed the idea proposed in the resolution, it felt that it involved a question which did not properly come within the province of the Executive Committee, and that the matter concerned the Association at large. After a spirited debate, participated in by Drs. Hare, Scott, Ferguson, Love, Munn, Jackson, Bishop, and Meyer, the Chair declared the matter out of order amid great laughter and cheering.

The Executive Committee favored and the Association adopted the button of Dr. Stone as the permanent button of the Association. As to the recommendation in the re-

port presented by Dr. Humiston, the Executive Committee did not recommend the appointment of such committee.

DR. JOHN B. MURPHY of Chicago then delivered the general address on surgery. He selected for his subject, "Surgery of the Lungs." He stated that an analysis of what had been accomplished in this special line of work was of great interest, the advancements having been made by individual and unsupported efforts. The profession at large had never entered into this field with the enthusiasm, persistency, and energy with which it had invaded other regions, as the peritoneum, the genito-urinary, and the osseous and nervous systems.

In considering operations upon the lung several questions arise: (1) Is the lung, situated in its bone-bound cavity, accessible to surgical manipulation? (2) What are the difficulties and dangers encountered in entering this bony cavity? (3) To what extent may this wall be removed and replaced and what latitude of manipulation is permitted within the chest? (4) What will be the effect of opening the pleura in pneumothorax in cases of adhesions, and without adhesions? (5) How can its dangers be avoided or lessened? (6) Should the pleura be closed or drained? (7) Can the lung be incised, excised, or defunctionalized? (8) In pneumotomy, what are the dangers and limitations? (*a*) Hemorrhage from opening the chest; (*b*) pneumothorax from opening the bronchi; (*c*) pleuritis of the same and opposite side; (*d*) traumatic pneumonia; (*e*) sepsis? (9) What are the pathologic conditions of the lung requiring excision in (*a*) hernia, (*b*) infected injuries, (*c*) abscesses, (*d*) bronchiectasis, (*e*) gangrene, (*f*) removal of foreign bodies, (*g*) tubercular cavities, (*h*) hydatids, (*i*) actinomycosis? In pneumotomy, the dangers and limitations may be further classified as immediate hemorrhage, pneumothorax, and dyspnea, and secondarily, as shock, dyspnea, hemorrhage, sepsis, pleuritis, and pneumonia on the opposite side.

He then dwelt upon the best method of treating the intrathoracic stump, and upon drainage and closure. He also expatiated upon the process of repair in the stump, and upon how the chest is filled after excision. He next described how the lung may be defunctionalized artificially and quiescence maintained by injections into the pleural cavity by resection of the ribs, which allows the chest-wall to collapse, and by thoracotomy with separation of pleural adhesions and compression of the lung. The technical difficulties of intrapleural injections are adhesions and consolidations, while its technical dangers are air embolism, subpleural emphysema, pulmonary emphysema, dyspnea, and sepsis.

If pathology indicates, and clinical experience justifies, resection of the ribs to allow collapse of the lung, the same conditions demand thoracotomy with separation of adhesions and compression of the lung.

DR. MURPHY was extended a vote of thanks for his interesting and instructive address, after which the Association adjourned.

FOURTH DAY—JUNE 10TH.

DR. HAPPEL in the Chair.

DR. WILLS of California offered an amendment to the Constitution to the effect that the president, vice-presidents, treasurer, librarian, secretary, assistant secretary, and chairman of committee of arrangements shall be nominated by a special committee consisting of one member from each State represented at the meeting, and they shall be elected annually by vote, and shall hold office until their successors are elected. (This amendment lies over one year.)

DR. HAPPEL offered the following: *Resolved*, That an exact time be fixed at future meetings of the Association by the committee of arrangements, when the different general Addresses shall be delivered, and that when that time arrives all business shall be laid aside till the addresses have been finished. (Lies over one year.)

DR. C. LESTER HALL offered a resolution to the effect that the permanent secretary shall furnish incoming secretaries of sections with a list of names of those attending the various sections each year. Adopted.

The Committee on Transportation for the next meeting consists of H. L. E. Johnson, I. N. Love, C. A. L. Reed, X. C. Scott, E. D. Ferguson, and Starling Loving.

DR. LOVE presented the following resolution: *Resolved*, That the permanent secretary be required to have the official stenographic report of the proceedings of the general sessions transcribed verbatim and ready for consideration and correction, if need be, each day before being adopted. Carried.

A resolution was offered, and carried, that the permanent secretary furnish a copy of the Constitution and By-Laws and Code of Ethics to the proper authorities who have in charge the preparation of the program, with instructions to print the same in the regular official program each year hereafter.

Amendments to the Constitution and By-Laws:

1. Offered by Dr. W. L. Wills: Art. IV. — Officers. Amended to read: "Each officer shall hold his appointment for one year, and until another is elected to succeed him." This was tabled.

2. Offered by Dr. H. B. Ellis: Art. IX. — Conditions for further representation: "Any State or local medical society, or other organized institution, whose rules, regulations, and code of ethics agree in principle with those of this Association may be entitled to representation on the advice or agreement of the Judicial Council." This amendment was also tabled.

3. That the name of the Section on Dental and Oral Surgery be changed to that of Section on Stomatology. Adopted.

4. Offered by DR. L. D. BULKLEY: That "All new business shall be introduced not later than the third day of the session." To this amendment there were added the words, "unless there be objection," after which it was adopted.

After the presentation and adoption of resolutions of thanks, the Association adjourned to meet in Columbus, Ohio, the first Tuesday in June, 1899.

The official registration of members was 1336.

SECTION ON SURGERY.

SECOND DAY—JUNE 8TH.

AFTERNOON SESSION.

THE USE OF MIXED TOXINS OF ERYSIPELAS AND BACILLUS PRODIGIOSUS IN THE TREATMENT OF INOPERABLE SARCOMA, WITH IMMEDIATE AND FINAL RESULTS BASED UPON A PERSONAL EXPERIENCE OF SIX YEARS,

was the subject of a paper by DR. WILLIAM B. COLEY of New York.

He reported having treated eighty-four cases with the toxins and had restricted their use to inoperable sarcoma. He described the methods of preparation of the toxin used, and stated that he frequently employed the filtered toxin in the case of children. Greater virulence, it was stated, was obtained by passing the toxins through rabbits, and the author always preferred to use the combined toxins of erysipelas and bacillus prodigiosus. It was claimed that although the results obtained have been asserted by some to be local, this really is not so, as the action is both systemic and local, but when possible the injections are given locally. The severity of the reaction depends largely upon the rapidity of absorption. Referring to the question of dosage, the speaker stated that he began with a minimum dose and slowly increased daily, the dose depending upon the virulence of the culture. If used subcutaneously, much larger doses may be given. In cases of speedy reaction nausea and vomiting occur, but it is not necessary to produce a chill with every injection. In commenting on the loss of weight during the treatment he stated that this was not true unless the dose was too large. As to the change in the tumor itself, macroscopically, it became less vascular and less glossy in appearance as well as smaller in size. Concerning the duration of treatment, one can soon tell whether or not any good is being accomplished by this method of treatment, and it should not be continued unless improvement begins within three weeks.

In closing the discussion which followed the reading of the paper, Dr. Coley said that the results obtained from the use of the toxins in carcinoma had not warranted their continuance, and in only one case of epithelioma of the mouth had good results followed. As to the possibilities of sarcoma and gummata being confounded, he thought that was only possible in round-celled sarcoma. In fifty per cent. of his cases of spindle-celled sarcoma which had been hopelessly inoperable the growth had practically disappeared under the influence of the toxins.

DR. W. W. KEEN of Philadelphia then read a paper on

THE ADVANTAGES OF A PERMANENT ARTIFICIAL ANUS, AND OF TOTAL CLOSURE OF THE SACRAL END OF THE RECTUM, IN OPERATIONS FOR CANCER OF THE RECTUM.

The author reported having operated on seven patients, of whom four recovered, three died, and two were well at the end of five and one-half years. Both of the latter were men, and are, at the present time, able to ride bicycles, and may be considered as cured, having passed the three-year limit. He laid great stress upon the danger of infection during and after these operations and stated that the operation preferred by himself in making an artificial anus is that instituted by Maydl. A great point in favor of the artificial anus in these cases is that the upper half of the tumor can be cleaned out from above and the lower half from below. One objection to the old operation is the necessity of wearing a napkin day and night in addition to the fact that there is often very considerable prolapse of the bowel.

DR. CHARLES A. POWERS of Denver showed three patients in lieu of reading a paper. The first was a child, who, at the age of three months developed a large coccygeal tumor which he believed to be a tubulo-dermoid.

The second subject was an excellent example of what the Murphy button can accomplish under very unfavorable circumstances. The patient had had appendicitis for three weeks, intestinal obstruction for four days, and a tumor the size of a football was present, so that his condition was very precarious. Upon making an incision a large amount of pus was liberated, and a drainage-tube was inserted. Within twenty-four hours he developed a fecal fistula at the site of the tube, and an enterectomy was performed shortly afterward, a Murphy button being inserted, which was passed on the thirtieth day, and the fistula subsequently closed. A third operation was performed later for the removal of the appendix.

The third case was one of a T-shaped fracture at the elbow-joint Dr. Powers stated that some surgeons claim that it is difficult to obtain good results if in these cases the arm is treated in the extended position, but he did not think this was true. He believed the best position is of slight abduction of the arm, a splint being applied at an angle of about 150 degrees, and at the end of a week bringing it up nearer to an angle and each week flexing it still further. He believed that as good results can be obtained from the flexed position as from the extended, and considered it much safer.

DR. H. A. HARE of Philadelphia read a paper, entitled

THE MEDICAL ASPECT OF APPENDICITIS.

In the author's opinion, all cases of appendicitis are not operable. He drew attention to typhoid fever as a complication of appendicitis, and to the frequent lack of typical symptoms of appendicitis, even when it is present. He concluded his paper by dividing the subject into three classes of cases: first, those that undoubtedly should be operated upon; second, those about which doubt exists; and, third, those in which the patient recovers from moderate attacks and have no more.

DR. H. D. NILES of Salt Lake City read a paper, entitled

THE TIME TO OPERATE IN APPENDICITIS.

The speaker argued strongly in favor of immediate operation in all cases, and gave it as his belief that if this were done the mortality would not exceed two per cent. He stated that the present death-rate in cases of first attack is one per cent., while in subsequent attacks it is twenty-five per cent.

DR. WILLIAM N. HARSHA of Chicago read a paper, entitled

THE EARLY TREATMENT AND INDICATIONS FOR OPERATION IN APPENDICITIS.

He referred to the best medical treatment in these cases by mentioning opium in the form of codein for the pain, and cathartics for the bowel. He believed that twenty-four hours is sufficient in which to decide whether surgical interference is necessary, and considered that the sooner the operation is performed the better in cases of the fulminating variety.

THIRD DAY—JUNE 9TH.

DR. A. H. LEVINGS of Milwaukee read a paper, entitled

THE COURSE AND TREATMENT OF INJURIES TO THE PERIPHERAL NERVES.

After referring at some length to a number of cases of injuries to nerves and to various methods of treatment, he referred to five important headings under which the matter should be considered: (1) the absolute necessity of asepsis; (2) the nerve should not be separated from its connective-tissue surroundings; (3) the approximation of the ends should be made without tension; (4) if an inch or more be lost, the gap should be bridged with some material having longitudinal strands; and (5) contrary to the common belief, absolute rest of the limb is not necessary.

DR. R. HARVEY REED of Rock Springs, Wyoming, read a paper, entitled

POST-OPERATIVE INSANITY.

He reported several cases occurring in his own practice and in the practice of others, and read a number of extracts from letters received from surgeons throughout the country on this subject. He stated that sometimes slight operations are followed by severe forms of insanity, and referred to a case of insanity which had been cured by an operation for an entirely different condition.

DR. HENRY O. MARCY of Boston read a paper, entitled

TENDON SUTURE; ITS PREPARATION AND USES.

He showed several different kinds of tendons, prepared in various ways, and pointed out the merits and demerits of each.

Extracts from the paper by DR. GEORGE W. CRILE of Cleveland, for which the author was awarded the Senn medal for 1898, entitled

EXPERIMENTAL RESEARCH INTO THE EFFECTS OF TEMPORARY CLOSING OF THE CAROTID ARTERIES; REPORT OF A CASE; EXHIBITION OF A NEW INSTRUMENT,

were read, but in the absence of the author there was no discussion.

DR. GEORGE W. JOHNSON of Dunning, Ill., read a paper, entitled

RADICAL CURE FOR HERNIA AND HYPERTROPHIED PROSTATE IN OLD MEN; REPORT OF CASES.

The author reported having operated on fifty-seven patients, in one of whom hernia resulted and was followed by death. It was stated that the lateral lobes of the prostate may be enlarged without giving rise to symptoms, but in most cases frequent and painful urination are prominent factors, as well as tenesmus and painful defecation. He believed that operative treatment should be faithfully tried in all cases.

DR. FERD. C. VALENTINE of New York read a paper, entitled

A CONTRIBUTION TO THE STUDY OF THE SYMPTOMS OF CHRONIC GONORRHEA.

He stated that the first sign of gonorrhea is an agglutination of the meatus, and that the disappearance of the discharge causing this condition does not prove the cure of the disease. The discharge in both acute and chronic cases varies very much, as do the color of the stains on linen. He commented on the fact that spermatorrhea may exist coincidentally with urethritis.

DR. BAYARD HOLMES of Chicago read a paper, entitled

ADRENAL TUMORS IN THE KIDNEY.

The doctor referred to the various results from injury and removal in part or in whole of the suprarenal capsule and to the relation of these bodies to the kidneys.

DR. HOWARD A. KELLY of Baltimore read a paper entitled

PNEUMATURIA.

In taking up this subject, Dr. Kelly divided it into four classes: (1) that in which the air is mechanically introduced from without; (2) in which the gas develops in the urinary tract; (3) in which the gas reaches the bladder from the surrounding area; and (4) in which the gas originates in the kidneys and ureters. He reported a number of cases observed by himself and commented on the possibility of the appendix sometimes being the cause of pneumaturia.

DR. JAMES M. ANDERS of Philadelphia read a paper, entitled

ETHER PNEUMONIA.

After referring at great length to the causes and symptoms of this condition it was stated that various nose and throat troubles, such as rhinitis and bronchitis, are important predisposing factors to ether pneumonia. He stated that most cases occur during cold and changeable weather, and he believed that the amount of ether used and the method of administering has much to do with causing the occurrence of this condition.

DR. H. M. SHERMAN of San Francisco read a paper, entitled

TREATMENT OF CONGENITAL DISLOCATION OF THE HIP.

In referring to the cause for the stiffness that sometimes appears late in these cases, the author stated that cicatricial contraction has much to do with the condition. He described in detail his method of treatment and quoted a number of cases in which he had obtained excellent results.

The officers appointed for the ensuing year were as follows: Chairman, W. J. Mayo of Rochester, Minn.; Sec-

retary, M. L. Harris of Chicago; Committee on Senn Medal, A. D. Bevan of Chicago, Chas. A. Powers of Denver, Wm. B. Coley of New York.

SECTION ON NEUROLOGY AND MEDICAL JURISPRUDENCE.

THIRD DAY—JUNE 9TH.

The first paper of the morning session was by DR. FRANK P. NORBURY of Jacksonville, Ill., entitled

MELANCHOLIA.

His conclusions were, briefly stated, as follows: The mind has a physical basis: the brain is the organ of the mind, its activity is dependent upon nutrition; when badly nourished melancholia results. Melancholia is therefore a nutritive disorder. In melancholia generally bodily nutrition is as much a part of the disease as are the mental symptoms.

DR. MEYER of New York thought from observation of a large number of cases of melancholia, so-called, that one deals with quite a number of different disease processes.

DR. LICHTY of Union Springs, New York, said his own experiments along the line of Haig's investigations as to faults in nutrition had been rather disappointing.

DR. PUNTON of Kansas City thought there should be detention hospitals, midway between the home and the insane asylum for the treatment of melancholics.

DR. RIGGS of St. Paul, Minn., thought the treatment received in asylums by those suffering from melancholia, in the majority of cases, is the best possible for that condition.

DR. HERDMAN of Ann Arbor, Mich., related two cases of melancholia in women which were entirely relieved by removing the disturbing or exciting causes, namely tumor of the uterus, and retroflexion of the uterus, respectively. He thought it extremely important to know what these reflex disorders produce in the way of changed metabolic disturbance.

DR. TOMLINSON of Missouri protested against calling every depressed individual a melancholiac. The paper was also discussed by Dr. Woodson, Dr. Searcy of Alabama, and Dr. Hughes of St. Louis. Dr. Hughes said that the prognosis in melancholia, when treated properly at an asylum, is very favorable.

DR. SHERMAN G. BONNEY of Denver read a paper on

FUNCTIONAL NERVOUS DISTURBANCES IN PULMONARY INVALIDS,

relating his experiences in a large number of cases of phthisis.

The Nominating Committee made its report, which was duly accepted. The officers for the next year are as follows: Chairman, Frederick Peterson of New York; secretary, Hugh T. Patrick of Chicago. Executive Committee: T. D. Crothers of Hartford, W. J. Herdman of Ann Arbor, Mich., Charles H. Hughes of St. Louis, Mo.

DR. SAMUEL BELL of Newberry, Mich., read a paper on

SOME RESULTS OF THE ADMINISTRATION OF THYROID EXTRACT ON THE RED AND WHITE CORPUSCLES AND HEMOGLOBIN IN CASES OF ANEMIA ASSOCIATED WITH MELANCHOLIA.

At the Upper Peninsula Hospital for the Insane (Michigan) nine patients were under treatment in the first series, seven females and two males, all suffering from some form of mental depression. Blood examinations were carefully made. In one of the cases the red corpuscles were increased 728,400, leucocytes 1330, and hemoglobin 7 per cent. Nine patients received thyroid medication, and were under close medical supervision; in five cases there was a marked change for the better; the other four were not favorably influenced, so far as could be observed. Three of the five who improved began to increase in weight during treatment, and two of them did not until after treatment was relinquished. The psychologic effect was observed almost from the beginning of treatment in those who were permanently improved.

The next feature of the afternoon's program was a

SYMPOSIUM ON BRAIN TUMOR,

participated in by the following: Dr. Charles H. Hughes of St. Louis, who spoke of the "Symptomatology;" Dr. Frederick Peterson of New York, on "Localization;" Dr. Edward Jackson of Philadelphia, on "Ocular Symptoms;" Dr. Philip Coombs Knapp of Boston, on "Treatment from the Neurologic Aspect;" and Dr. W. W. Keen of Philadelphia. on "Treatment from the Surgical Aspect."

DR. HUGHES spoke of the symptomatology of tumors of the brain, and the necessity of understanding, not only the symptomatic expressions, but also the secondary states of the brain which their presence induces. Conditions of the intracerebral circulation, excited by or preceding the development of a neoplasm, glioma, or other growth within the brain by a morbid cause projecting within it from the brain's enveloping membranes or bony covering, cause a symptomatology (cephalalgia, neuroretinitis often, and sometimes glaucoma) which may exist independently of any form of intercerebral or intracranial morbid growth. Hysteria complicates, even as it is sometimes complicated with, cerebral tumor. Altered cerebral circulatory states, especially of vasomotor cause independent of intracranial growths, are not continuous as tumors are. Chief among the persisting signs are the eye fundus and pupillary signs, the paralyses of cerebral sources, mono- deutoplegias, etc., mono- or deutospasm, tremors, the epilepsies, the vertigos, motor- and special-sense paralyses, the incoordinations, anesthesias and pains due to regional or general cerebral irritation or pressure, and the degenerations due to intracranial pressure. Here we are confronted in the symptomatology with the possibilities and consequences of cerebral sclerosis, atheromatous, inflammatory or specific vascular changes, emboli, thrombi or thrombotic inflammation of vessels, apoplectic sequelæ, abscesses, interstitial nephritis, uremic, alcoholic, or other toxipathies, involving the brain, its vessels, texture or coverings, and serous ventricular or subarachnoid effusions. Insanity is often a marked symptom of tumors.

DR. PETERSON referred to the localization of brain tumors, and presented several charts, one showing the localization of functions in the cortex, another to illustrate the localization of speech functions, showing the centers of language and the result of the lesions of the same.

DR. EDWARD JACKSON mentioned optic neuritis as the most striking and significant symptom, occurring in eighty or ninety per cent. of all cases. It cannot, however, be regarded as pathognomonic, and it is of little value to indicate the location of the tumor. The typical optic neuritis of brain tumor is characterized by great swelling, sometimes 10 or 12 D. (3 millimeters), abruptly limited, at no great distance from the margin of the disk; with arteries narrowed, veins dilated, and very tortuous, and small vessels much enlarged but not very numerous because scattered through the swollen tissue; small flame-shaped hemorrhages upon or near the papilla; the other portions of the fundus, except for the alteration in the vessels, being normal, or presenting changes which are in most cases slight as compared with those at the disk. In contrast with the above, swelling and discoloration of the disk, occurring as an anomaly, are never of very high degree. Dr. Jackson also referred to optic atrophy, changes in the pupil with impairment of accommodation, paresis of the extra-ocular muscles, nystagmus, impairment of central vision and limitation of the field of vision, and impairment of color perception.

DR. KNAPP said that out of 405 cases collected by him in 34 the growth was found but could not be removed; in 92 the growth was not found at the point of operation, and in 224 the growth was found, but in 34 of these cases the growth was of such a nature that it could not be wholly removed; 55, or 14 per cent., were palliative operations, some of which were perhaps real cases in which there was a mistaken diagnosis. Dr. Knapp was not very sanguine as to the results of operation in cases of tumor, but he dwelt upon the advisability of operative procedure in gummata and tubercular growths. The greatest danger is in sarcomata and glycomata, the likelihood of recurrence being especially marked.

DR. W. W. KEEN referred to the difficulty of localization, and urged that every one of these cases be subjected to faradism during the operation before the tumor or the brain is touched. He deplored the antivivisectionist measures, which, if persisted in, would seriously hamper brain surgery and prevent its advance. As to the technic of the operation, Dr. Keen advocated a very large opening, giving a better opportunity to ascertain the location of the tumor.

DR. T. J. ESKRIDGE of Denver reported

A CASE OF INTRADURAL TUMOR OF THE SPINE; REMOVAL; COMPLETE RECOVERY,

and exhibited the patient.

DR. DANIEL R. BROWER of Chicago contributed a paper on

ACUTE MENINGITIS; OBSERVATIONS ON DIFFERENTIAL DIAGNOSIS AND TREATMENT.

He laid emphasis on the Skeer sign, which, when present, will enable a diagnosis of tubercular meningitis to be made very early. It is due to the deposition of tubercle around the pupillary margin of the iris, showing itself first as a distinct wreath of white clouds about a millimeter from the margin. This sign occurs before any change has taken place in the size of the pupillary orifice. After three or four days these minute cloud-like masses disappear, and a yellowish-brown circle takes their place, becoming more and more attenuated, as the pupil dilates. These secondary changes are doubtless due to degeneration of blood-vessels and tissues from tubercular deposits. Unfortunately this sign is frequently absent, but when present Dr. Brower regards it as pathognomonic of tubercular meningitis. Dr. Brower advocated the iodoform treatment by inunction. He prefers a ten-per-cent. ointment of iodoform and lanolin, applied daily to the shaven scalp. Absorption takes place promptly, and iodin may sometimes be discovered in the urine and saliva one hour after the inunction. Out of forty-five cases treated in this way there were thirty-two recoveries.

DR. C. EUGENE RIGGS of St. Paul presented

A CASE OF REYNAUD'S DISEASE, WITH AUTOPSY,

exhibiting notes of sections of the cord.

SECTION ON DISEASES OF CHILDREN.

SECOND DAY—JUNE 8TH.

A paper, entitled

WHAT INFLUENCE DO STIMULANTS AND NARCOTICS EXERT ON THE DEVELOPMENT OF THE CHILD,

was read by DR. E. STUVER of Rawlings, Wyoming. After referring to the functional disorders produced by tobacco, the essayist spoke of the effects upon the moral nature. Much of the pallor, anemia, malnutrition, and evidences of retarded growth and development, especially among the poorer classes, is largely due to the tobacco-poisoned atmosphere in which children are compelled to breathe. The pathologic and moral effect of alcohol on the human organism were also considered at length.

In the discussion, DR. SLAGLE of Minneapolis gave an instance of an infant made so ill by tobacco fumes that a fatal prognosis was made.

DR. LAUTENBACH of Philadelphia had seen a victim of tobacco blindness only thirteen years of age. Tobacco probably never does good and frequently does harm, probably greater harm than alcohol. It is more difficult to persuade patients to stop the use of tobacco than alcohol.

"The Treatment of Tuberculosis in Children in New York City; Remarks Based on Ten-Years' Experience," was the title of a paper read by DR. LOUIS FISCHER of New York. This was followed by papers on "Tubercular Peritonitis," by DR. F. F. LAWRENCE of Columbus, Ohio; "Immediate and Forcible Straightening of Spinal Curvatures," by DR. RIDLON of Chicago; and "Auto-Infection *versus* Typhoid Fever as Seen in Young Children," by DR. HOLLOPETER of Philadelphia.

Officers elected for the coming year were: President, Dr. Henry E. Tuley of Louisville; secretary, Dr. J. L. Booker of St. Louis.

A paper, entitled

IS THE USE OF THE TERM "TYPHOID PNEUMONIA" JUSTIFIABLE?

was read by DR. HENRY E. TULEY of Louisville.

In the case reported many symptoms pointed toward typhoid fever, yet no evidence was found post-mortem except slight enlargement of the mesenteric glands. On the twelfth day there were no signs of consolidation of the lungs. Autopsy revealed the lungs to be almost completely consolidated. Bacteriologic examination of the lungs revealed the presence only of diplococcus pneumoniæ. In such cases the essayist believed the term "typhoid pneumonia" justifiable.

Papers on "Artificial Feeding in Digestive Disturbances of Infants," by DR. J. G. M. CARTER of Waukegan, Ill., was read by Dr. Charles D. Spivak of Denver; "Formative Nutrition," by DR. H. W. SCAIFE of Chicago; "The Debility of Adolescence," by DR. LOUIS FAUGERES BISHOP of New York; and "Milk-Mixtures as Food for Infants," by DR. EDWIN ROSENTHAL of Philadelphia.

THIRD DAY—JUNE 9TH.

The first paper read was on "The Serum-Treatment of Diphtheria as Viewed by the General Practitioner During the Last Year," by DR. ALEXANDER MCALLISTER of Camden, N. J.; and was followed by "Data Derived from One Hundred Cases of Laryngeal Diphtheria, Including Fifty Intubations," by DR. ROSA ENGELMAN of Chicago.

THE PRECORDIAL AREA IN CHILDREN; A PRACTICAL DEMONSTRATION

wat the title of a paper by DR. HERBERT B. WHITNEY of Denver.

To the essayist there was nothing in physical diagnosis more definite and more certainly ascertainable than the normal area of precordial dulness. At the age of five years the precordial area is not perceptibly enlarged but corresponds practically to that of the adult. From the age of eight years up to and considerably beyond the age of puberty the normal precordia differs materially from that which is found in earlier life. Its right border now extends a half inch or even more beyond the right sternal margin; while the upper border is in the second interspace, and toward the left the precordia extends one-fourth to one-half inch beyond the mammillary line. During the fifth, sixth, and seventh years the conditions are inconstant. The enlarged precordia of childhood may be found even in the fifth year, but this is decidedly the exception. In the sixth year it is much more frequent; in the seventh it occurs in the majority of cases, while in the eighth year, as stated, it becomes constant. The percussion should be made with the finger, the stroke being light or of only moderate force. In percussing the right heart, the essayist laid considerable stress upon percussing along the sternum, marking the difference obtained in percussing the upper and lower part. The demonstration was made upon a number of children of various ages.

The paper was discussed by Dr. J. N. Hall of Denver, Dr. John H. Musser of Philadelphia, and Drs. Babcock, Cotton, Engelman, and Whitney.

OBSERVATIONS IN DIPHTHERIA

was the title of a paper by DR. H. D. JEROWITZ of Kansas City, Mo. The essayist observed that the majority of cases of diphtheria are mild, and affect only the tonsils and pharynx. The exudation lasts from one to two weeks. To this there are exceptions. Removal of the membranes is useless, as by denuding the surface infection is promoted, and, in addition, the membrane soon reappears, and remains longer than if it had not been meddled with. The involvement of the larynx is not always sudden and comes as a new attack, and not by extension of the diphtheritic process. The larynx becomes involved in about four per cent. of cases. Every case complicated by uremia in his experience had post-diphtheritic paralysis. Laryngeal involvement is to be most dreaded between the ages of three and five. Intubation and tracheotomy will become less and less necessary as the value of antitoxin is recognized.

"A Report of Thirty-eight Consecutive Intubations for Diphtheritic Croup, with Thirty-six Recoveries, all Treated with Antitoxin," was read by DR. F. E. WAXHAM of Denver; "Indications for Intubation," by DR. H. M. MCCLANAHAN of Omaha; "Disturbed Lactation; Some Causes and Effects," by DR. A. C. COTTON of Chicago, and "Dentition," by DR. JOSEPH CLEMENTS of Kansas City, Mo.

SECTION ON MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

SECOND DAY—JUNE 8TH.

DR. H. A. MOODY of Mobile read a paper on

POTASSIUM IODID IN CEREBROSPINAL MENINGITIS.

He said he unhesitatingly recommends the free use of potassium iodid in this disease. It can be administered by enema or inunction, so that the vomiting so often present in this malady is no obstacle to the use of the remedy. He passed through two epidemics, employing the ordinary remedies in the first, and in the second potassium iodid with other remedies, the percentage of mortality being greatly reduced.

DR. W. B. HILL of Milwaukee read a paper on

ANTISTREPTOCOCCIC SERUM.

He said the time is not far distant when other antitoxins will stand shoulder to shoulder with that of diphtheria. In the treatment of erysipelas by antistreptococcic serum the percentage of mortality is greatly diminished. In a case of facial erysipelas in a lady aged seventy-one years, with a temperature 104° F., pulse 146, antistreptococcic serum, 10 c.c., was injected at 2 P.M., and repeated later. The temperature became normal within a few hours, and tenderness disappeared, followed by prompt recovery. Any disease caused by streptococcic infection is benefited if not cured by the serum.

DR. R. G. ECCLES of Brooklyn read a paper discussing

THE PONS ASINORUM OF THERAPEUTICS,

in which he asserted that any therapeutic law which fails to come down to the bedrock of cause and effect is a mere

hallucination. All effective therapeutic measures are preventive ones. Our present failures are due to defective diagnosis. We cannot overcome this defect until we have a new nomenclature of disease. There is no such thing as a distinct disease, disease being only the resulting effects of a multitude of causes actively resisted by the body. A cure occurs when we suspend the action of the damaging force. The human body does its own repairing of the damage; we can only remove the causes. Prophylaxis is the soul of cure. Every disease of the body can occupy any part of the body. Instead of calling the disease pneumonia let us call it pneumococcus pneumonia, streptococcus pneumonia, or some bacillus pneumonia. To say simple pneumonia is misleading.

DR. T. D. CROTHERS of Hartford presented a paper, entitled

GOLD-CURES IN INEBRIETY.

He said the empirical preparations called gold-cures are found upon analysis to contain no gold whatever. Gold is non-assimilable and its modern use is confined to quacks who trade on the name. The modern craze for gold as a remedy is simply a repetition of charlatans, schemers of past centuries who sought to meet and supply the demand for elixirs of life. The value of the gold-cures depends upon credulity. A yellow mixture of some vegetable extracts injected in the arm and followed by general relaxation and diaphoresis has created a profound impression and it is believed that the hidden virtues of the drug will revolutionize pharmacy in the future. Injections of gold tried by the speaker have not been noticeable for any effects on the desire for spirits. By impressing the mind of the patient with a profound conviction of the value of the drug, and detailing the expected results which would follow, and using colored water, the exact effects would appear. Inebriety is more than alcoholism; it includes disorders of which the desire for spirits is only a symptom. The real trouble is some central disease of the brain so complex and obscure that no drug or therapeutic agent can reach it specifically. Experience indicates that it is extremely doubtful if any remedy exists for this obscure neurosis of the brain. The degeneration which precedes and follows the use of alcohol consists of organic changes of cell and nerve-tissue, and restoration is problematic and depends on causes and conditions largely unknown.

REVIEWS.

ORTHOPEDIC SURGERY. By JAMES E. MOORE, M.D., Professor of Orthopedia and of Clinical Surgery in the University of Minnesota, etc.; 354 pages; 177 illustrations. Philadelphia: W. B. Saunders, 1898.

IN the preface the writer states that the book is the work of a general surgeon who has taught orthopedic surgery for a decade. He has endeavored to point out the desirable middle ground between too much and too little operating, and has made a studied effort to reduce the size of the book by eliminating all that is not of practical value. The illustrations of the phases of disease and deformity are, as a rule, excellent. As much cannot be said for many of those indicating treatment. Even the plaster jackets, as applied by the author, are open to criticism, and it is hardly fair to assert that a Washburn back brace, figured with its pelvic band about the waist of the patient, "is practically identical with that of Taylor." A professor of "Orthopedia" ought to be more familiar with Andry's book than to assert that the inventor of the term limited it to the straightening of crooked children. A plaster cast is not identical with a plaster bandage, and the composition of an "A. S. & B. pill" may not be known to all students. The quotations are few and there is little excuse for the persistent misspelling of a name as well-known as that of Lorenz. In spite of its shortcomings, however, the book is to be commended as a clear, commonplace presentation of common-sense principles applied to the treatment of deformity.

A TEXT-BOOK OF SPECIAL PATHOLOGICAL ANATOMY. By ERNST ZIEGLER, Professor of Pathology in the University of Freiburg. Translated and Edited from the Eighth German Edition by DONALD MACALISTER, M.A., M.D., Linacre Lecturer of Physic and Tutor of St. John's College, Cambridge, and HENRY W. CATTELL, M.A., M.D., Demonstrator of Morbid Anatomy in the University of Pennsylvania. Sections ix–xv. New York: The Macmillan Company, 1897.

NO work on pathology has achieved greater success than Ziegler's, and the idea of presenting the last German edition to English readers deserves the warmest commendation.

The volume before us completes a work, which for attractive style and accuracy of statement, must always appeal to every student. A careful comparison, however, with the text of the seventh edition, which appeared in 1892, shows that a large part of the work is unchanged, though here and there a careful revision is apparent, and several chapters have been entirely rewritten, notably the sections on the causation of disease, on the induction of immunity by artificial means, on predisposition, and on inflammation, all of which, however, appear in an earlier volume.

In Sections ix–xv, the special changes in the diseases of the alimentary tract, the liver and pancreas, the respiratory system, the urinary organs, the genital system, the eye and ear are stated, though here the changes and additions are somewhat less conspicuous than those just mentioned, and for obvious reasons. The work is too well known to demand a consideration of each subject at our hands, and it must suffice to say that we know of no book on pathology which presents all the advances in our knowledge of disease in a more scientific or capable manner. As in the original German edition, an extended bibliographical list follows each section, giving the more important references to recent contributions. The illustrations are copious and excellent, being the same as in the original edition, and the typography leaves nothing to be desired. The publishers and editors are to be congratulated on the completion of a superb work.

OUTLINES OF RURAL HYGIENE; FOR PHYSICIANS, STUDENTS, AND SANITARIANS. By HARVEY B. BASHMORE, M.D. Philadelphia: F. A. Davis & Co., 1897.

AS the author states in his preface, "Much of the substance of the work has appeared from time to time in various medical journals;" nevertheless, this collection of essays on water-supply, waste-disposal, the soil, habitations, and disposal of the dead, should be carefully perused by both the profession as well as the laity, for there are therein contained many important facts which might promote health and sanitation of cities as well as of rural districts. The author has presented his subjects in a most interesting manner and should be thanked for the clearness and conciseness which he has combined in this little work.

DIE HAUPTSACHEN DER CHEMIE FUR DAS BEDURFNISSDES MEDICINERS. By DR. ERICH HARNACK, Hamburg. Leopold Voss, 1897.

THIS little book embodies in a concise manner all the most salient points in organic and inorganic chemistry, with short references to analytical methods employed in the various separations useful to the medical student. Its statements of chemical theory are both lucid and to the point, embodying all that is necessary for a complete comprehension of the matter therein contained. It might be recommended as a short guide on the subject, were it not that an alphabetical index to the subject-matter is lacking, which makes it somewhat difficult of access.

CHEMISTRY AND PHYSICS. A Manual for Students and Practitioners. By JOSEPH STRUTHERS, Ph. B., D. W. WARD, Ph. B., and CHARLES H. WILLMARTH, M.S. Philadelphia and New York: Lea Bros. & Co., 1898.

ONE of the series of "The Students' Quiz Series" with the above title has reached us, and, as usual in works of this type, we find that it answers its purpose admirably. The book being arranged in the question-and-answer method, it can be recommended as a guide to students preparing for examinations as well as a handy reference-book. Illustrations and a well-arranged index add to the value of the work.

A TEXT-BOOK OF THE DISEASES OF WOMEN. By HENRY J. GARRIGUES, A.M., M.D., Professor of Gynecology and Obstetrics in the New York School of Clinical Medicine, Gynecologist to the St. Mark's Hospital, etc. Illustrated. Second edition. Philadelphia: W. B. Saunders, 1897.

THE author of this well-known volume is to be felicitated upon the early demand of a second edition of his work. Such changes as he has made in this edition greatly enhance the value of the book. Many of the illustrations have been replaced by new ones and it may be said that up to the present time few books on gynecology so well and artistically illustrated have appeared in the United States. Especially of note are the illustrations of the anatomy of the female generative and pelvic organs and the text accompanying them is lucid and well adapted to the student's needs. We note other changes in the text, especially the equalization of vaginal and abdominal sections, the insistence upon aseptic surgery and a very good chapter on intestinal surgery included in the appendix.

It is not surprising to learn that Dr. Garrigues' book is used as a text-book in many of the colleges of the country. It is not only a good reference-book for the practitioner, but its wholesome advice, its clear reasoning, its simple statements, stripped of all unnecessary verbiage, its modern classification and methods, and its excellent illustrations render it an especially safe work to place in the student's hand.

THERAPEUTIC HINTS.

For Constipation.—When due to inactivity of the colon and diminished secretion of bile the following pill is of service:

℞ Ext. aloes, Quiniæ sulphat. } aa . . . gr. xxiv
M. Ft. pil. No. XXXII. Sig. One pill at night.

Treatment of Delirium Tremens by Sulphate of Atropin.—TONVIME has successfully treated a number of patients by means of hypodermic injections of this drug. In almost all cases a dose of $\frac{1}{60}$ of a grain produced a deep and quiet sleep.

For Scleroderma.—In this disease PHILIPPSOHN has obtained good results from the administration of salol, in doses of from 8 to 15 grains, repeated several times a day. The skin became more supple and in some cases even regained its normal condition.

Laxative for Infants.—

℞ Syr. mannæ . . . . . ʒ vi
Syr. rhei aromat. . . . . ʒ iii.
M. Sig. One-half to one teaspoonful.

Laxative for a Child.—

℞ Mannæ . . . . . ʒ iii
Magnesii carb., Sulph. loti } aa . . . . ʒ vi
Mellis . . . . . ℥ iii.
M. Sig. One-half to one teaspoonful.

For Goiter.—Frey recommends parenchymatous injections of the following solution:

℞ Iodoformi . . . . . grs. xv
Ether . . . . . *m.* lxxv
Ol. amygdal. dulc. . . . ʒ iiss.
M. Sig. Twenty to forty minims for injection into the parenchyma of the gland.

Tincture of Myrrh in Diphtheria.—Miloslawsky recommends painting the throat five or six times a day with undiluted tincture of myrrh, and the use of a one-per-cent. solution as a gargle. He also prescribes internally as follows:

℞ Tinct. myrrhæ . . . . . *m.* xl
Glycerini . . . . . *m.* lxxx
Aquæ . . . . . ℥ iv.
M. Sig. One to four teaspoonfuls every two hours, according to age of patient.

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXXIII. NEW YORK, SATURDAY, JULY 9, 1898. NO. 2.

ORIGINAL ARTICLES.

THE TUBERCULIN TEST IN CERVICAL ADENITIS.[1]

BY EDWARD O. OTIS, M.D.,
OF BOSTON, MASS.

IT has been generally considered, I think, that a large number of cases of cervical adenitis are tuberculous, particularly if they are of slow growth and long continuance. The direct proof of this, however, as Volland[2] says, is very difficult to obtain, and I am not aware of any series of exact investigations undertaken to determine the proportion of tuberculous cases, or any decisive method of diagnosis in individual instances of the affection under consideration, other than the laborious one of making a microscopic examination of the contents and walls of the glands, or possibly by animal experimentation. In this latter method Bollinger[3] found that there must be a certain number of tubercle bacilli in the material injected to produce results, so that this test may fail. Volland,[4] in a series of observations made in Davos and its vicinity upon school children and others, found that among 2506 persons examined, enlarged cervical glands were present between the ages of 7 and 9 years, in 96 per cent.; between 10 and 12 years, in 91.6 per cent.; between 13 and 15 years, in 84 per cent.; between 16 and 18 years, in 69.7 per cent., and between 19 and 24 years, in 68.3 per cent. He comes to the conclusion from these observations (it is difficult to understand upon what definite grounds) that 68 per cent. of enlarged cervical glands are tuberculous. In persons known to be tuberculous in whom hard glands in the neck exist, Volland considers these tuberculous also and states that they will be found to contain tubercle bacilli or spores. In 108 phthisical patients he found that in 101 enlarged cervical glands were present. Cornet found in a Catholic sisterhood that of those sisters dying of tuberculosis, 63 per cent. had enlarged cervical glands which he considered tuberculous. When enlarged glands occur in childhood and persist in later life Volland thinks that when pulmonary tuberculosis develops in such cases the infection is conveyed from the glands to the lungs, and that it is very unlikely that the gland tuberculosis is secondary to that in the lungs. If this is true the importance of determining the nature of cervical glands can hardly be overestimated, for the treatment is both urgent and imperative.

It occurred to me that the tuberculin test was available for this purpose, being both easy and rapid in its application. I therefore determined to use it in every case of enlarged glands of the neck as such occurred in dispensary practice. No selection was made, but every case was tested, no matter whether the enlarged glands had existed a long or short period, or whether local irritation existed, such as a decayed tooth, the irritation from pediculi capitis, etc., which seemed the probable cause.

The tuberculin was obtained from the Massachusetts General Hospital in the form of a one-per-cent. solution of Koch's original tuberculin. The usual aseptic precautions were observed in making the injections: the needle was boiled, the syringe cleansed with ninety-five-per-cent. alcohol, and the site of injection scrubbed with soap and water and a bichlorid of mercury solution. The injection was usually given in the muscles of the upper arm, and there always resulted local induration, redness, and tenderness, disappearing within a few days. In no case did abscess result. Probably an injection into the muscles of the back would have caused less discomfort, but in an out-patient clinic the arm was more available. With ambulatory patients it was impossible to make frequent observations of temperature, although it was generally taken at the time of the injection and from six to twelve hours later. The statement of the patient as to his sensations was principally relied upon as to whether or not a reaction had occurred, and experience convinced us that this was safe evidence; in other words, dependence was placed upon the constitutional disturbance. If from six to twenty-four hours after the injection there occurred weakness, sensations of heat and cold, general malaise, nausea, anorexia, severe headache, pain in the back and limbs, a feeling, as many expressed it, as if they had the "grippe," and these symptoms were sharply defined both in their beginning and ending, a reaction was considered to have occurred. The group of symptoms described by the reaction cases was quite constant and so clearly expressed from a vivid realization of their experience that there seemed but little

[1] Read before the Section on Clinical Medicine, Pathology, and Hygiene of the Suffolk District Medical Society, Boston, April 20, 1898.

[2] *Zeitschrift für Klinische Medicin*, 23, 1893.

[3] "Verhandlungen der Deutschen Naturforscher und Aerzte in Heidelberg," 1889; *Abth. Pathol. Anatomie*, s. 328.

[4] *Loc. cit.*

possibility of a mistake. The cases were all practically afebrile at the time of the injections. No evil results followed in any case further than the temporary reaction disturbance and the partially disabled arm for a day or two. Not a few expressed themselves as feeling improved, probably simply the contrast to the recent experience of the reaction. The glandular condition was not affected. In only one case could the reaction be said to have been excessive, and in this, after a dose of five milligrams, there was high temperature, a rapid and weak pulse, and great prostration. These symptoms, however, were but temporary. The reaction generally occurred from eight to fourteen hours after the injection and continued from twelve to thirty-six hours.

From 1 to 5 milligrams seemed to be the most satisfactory dose, and so far as our experience permitted a conclusion, was as efficient as 10 or more milligrams. It will be seen from the tabulated cases (Table I.) that out of 29, there were 18 positive reactions and 2 doubtful ones, from 62 to 69 per cent. Of the 11 cases in which reaction did not occur, in 6 the enlarged glands had only existed from 1 to 3 weeks, rather indicating that their origin was from some local irritation. The majority of the reactions occurred in cases in which the enlarged glands had existed six months or more, and this accords with the general opinion that tuberculous cervical glands are of slow growth and long duration. If, then, the tuberculin test is to be relied upon, our experience would indicate that at least 62 per cent. and probably a larger proportion of enlarged glands of the neck are tuberculous, but, of course, it requires a larger number of tests to verify this conclusion. It is interesting to note that in these 29 cases, 22 were in females; and in 17 instances the diseased glands were on the left side of the neck. These tests, so far as they go, corroborate the conclusions of others who have used tuberculin for diagnostic purposes, *viz.*, that there is no appreciable danger when the diagnostic agent is employed in moderate doses, and when there is doubt, as there always is, in a case of cervical adenitis, this test would appear to offer an easy method of settling the question as to the tuberculous or non-tuberculous nature of the glands. This settled, the question of treatment becomes more interesting and definite. Of course, I recognize the objection which will be raised: that the reaction may be caused by a tuberculous focus elsewhere, but I think it is fair to presume that it more likely to reside in the enlarged glands, other evidence failing to suggest its presence elsewhere.

Obtaining the reaction in a suspected case of cervical adenitis and considering that the diagnosis of tuberculosis is thereby established, the treatment indicated would seem to be twofold, *viz.*, general and local. The former should consist in fresh air, sunlight, abundant alimentation, good hygiene, and, in

TABLE I.—CERVICAL ADENITIS.

No.	Condition.	Duration.	Sex.	Age.	Dose in mg.	Result.
1.	Enlarged glands under right ear.	2 mos.	M.	18	1, 3, 10	No reaction.
2.			M.	6	1, 2	" "
3.	Suppurating gland in left neck.	1 mo. +	F.	10	1, 2	Reaction after 2 mg.
4.	Cervical abscess in left neck.		M.	3 mos.	1-10, 1-5	No reaction.
5.	Indurated mass under sternomastoid running up into region of the parotid. Has decayed teeth.	1 wk.	F.	40	2, 5, 10	Reaction after 10 mg. Swelling of joints of hand and feet persisting.
6.	Chronic suppurating gland in left neck.	2 yrs.	F.	23	5	Reaction.
7.	Enlarged submaxillary gland on right neck.	3-4 yrs.	F.	18	4	"
8.	Glands on right neck, one suppurating 5 months.	2 yrs.	F.	11	2	"
9.	Small glands both sides of neck, in occipital region.	3 wks.	F.		3, 5	No reaction.
10.	Mass of 6-7 glands extending from the left mastoid downward along the muscle.	10 mos.	F.	20	5	Reaction.
11.	Two glands in left neck below jaw.	3 wks.	F.	23	5, 10	Reaction after 10 mg.
12.	Two glands in left neck.	2 wks.	F.	9	3	No reaction.
13.	Suppurating glands in left neck; has had others within last two years.		F.	31	5	" "
14.	Two discrete glands under sternomastoid. Old scars from others.		M.	7	1, 3	Reaction after 3 mg.
15.	One discrete submaxillary gland.	2 wks.	F.	23	5	Reaction.
16.	Cervical submaxillary glands.	1 yr.	F.	9	4	"
17.	Glands in left neck; has had others on both sides.		M.	24	3	"
18.	Glands in occipital region.	6 wks.	F.	19	3	"
19.	Two glands in left neck.	2 wks. +	M.	14 mos.	?	Doubtful reaction.
20.	One gland in left neck.	1 wk.	F.	12	1-2, 1, 2	" "
21.	Scar from old gland in left neck.		F.	7	1, 2	No reaction.
22.	Glands in left neck; has had others.	8 mos.	F.	16	3	Reaction.
23.	One large gland below angle of left jaw; has had others.	6 yrs.	F.	14	3	"
24.	Three large fluctuating glands in left neck; has had others.	6 mos.	M.	27	5	"
25.	Glands in right neck.	8-9 yrs.	F.	21	5	"
26.	Glands in right neck.		F.	18	3	"
27.	Enlarged submaxillary gland, left side.	2 wks.	F.	19	5	No reaction.
28.	Glands in left neck and in left axilla.	2 yrs.	F.	20	3	Reaction.
29.	Enlarged submaxillary gland, left side.	1 wk.	F.	35	3	No reaction.

brief, whatever strengthens the resisting power of the individual. Although I have never been convinced that creosote has any specific action in tuberculosis, I do believe that it does raise the level of the patient's resistance and aids nutrition however this may be accomplished, and therefore I use it either alone or in connection with cod-liver oil and malt. So long as tuberculous glands exist they are always a menace to the individual, and consequently the logical treatment is their excision if this can be accomplished. Failing in this I should let them alone if they are not suppurating and devote my exertions to the general treatment. If they are suppurating, the sooner they are drained and healed the better—with the Briggs' cannula, or a seton, drainage can be expeditiously accomplished. Filling the cavity with iodoform emulsion after drainage from a small opening is also a valuable method. In a considerable experience I have never seen many, if any, favorable results from external applications. I may as well append here a series of tuberculin tests of various random cases (Table II.), made at the same time as the others, being rather of the nature of control cases, especially those of inguinal adenitis known to have had their origin in venereal infection. In the six cases of bubo, none gave a positive reaction. One of them gave what I have indicated as a probable reaction; possibly there was a tuberculous focus elsewhere if the reaction actually occurred. The results in most of the other cases corroborate the clinical diagnosis. In the three cases of pulmonary tuberculosis proved to be such by the presence of tubercle bacilli in the sputum, it will be noticed that in only one was a reaction obtained. A possible explanation of this one, in which the disease was quite extensive, may be that the system had been rendered immune by the dissemination of the disease itself. Other observers have reported a similar result in certain cases of extensive or advanced phthisis; possibly a larger dose of tuberculin than the one used—five milligrams—may have been required in this case. Where the error was, or why there was no reaction in the other case, I am unable to say.

TABLE II.—GENERAL CASES.

No.	Diagnosis.	Age.	Dose in mg.	Result.
1.	Suppurating inguinal gland.	28	5	No reaction.
2.	Suppurating inguinal gland.	34	5	" "
3.	Suppurating inguinal gland, both sides.	33	5	" "
4.	Suppurating inguinal gland, left side.		10	" "
5.	Suppurating inguinal gland.	23	5	" "
6.	Suppurating inguinal gland, right side.	42	10	Probable reaction.
7.	Enlarged gland, r. axilla.	14	3	No reaction.
8.	Enlarged glands, l. axilla.	40	3	Slight reaction.
9.	Suspected tuberculous wrist, also complains of cough and says she has spit blood.	16	1	Reaction.
10.	Indurated swelling of the right testicle, 1-month's duration; no known cause.	29	5	Reaction.
11.	Indurated swelling of the left epididymis of 3-yr's. duration.	24	5, 10	No reaction.
12.	Swelling of right wrist, possibly tuberculosis.	26	8	Reaction.
13.	Arthritis of carpometacarpal joint of r. thumb.	23	5	No reaction.
14.	Old sprain of ankle.	21	5	" "
15.	Necrosis of right thigh.	23 mos.	1	" "
16.	Chronic laryngitis; specific.	26	10	Moderate reaction.
17.	Atrophic rhinitis; pharyngitis sicca.	21	5	Reaction.
18.	Atrophic rhinitis; pharyngitis sicca.	36	5	Moderate reaction.
19.	Recent injury to side.	60	5	No reaction.
20.	Abdominal ascites, 10 months.	19	5	Doubtful reaction.
21.	Pulmonary tuberculosis, quite extensive consolidation; tubercle bacilli in sputum.	50	3, 5	No reaction.
22.	Pulmonary tuberculosis, atrophic rhinitis; tubercle bacilli in sputum.	24	5, 10	No reaction.
23.	Pulmonary tuberculosis, slight consolidation; tubercle bacilli in sputum.	24	5	Reaction.

In this series of cases also, no injurious effects or untoward results were observed from the use of the tuberculin. From the experience then, in these fifty-three cases, I have decided that it is a safe procedure and that one need not feel apprehension in its employment. Further, I believe that it is a valuable and easy diagnostic method in many and various conditions in which a suspicion of tuberculosis exists, and would commend its use. I have to acknowledge my indebtedness to those of my colleagues at the Boston Dispensary who kindly assisted me with clinical material, and also to Dr. F. W. Peare for his continued aid throughout the entire series of experiments.

ERYTHROPSIA; REPORT OF A CASE FOLLOWING AN OPERATION FOR CATARACT.

BY GLENDON E. CURRY, M.D.,
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MINOR degrees of erythropsia or red sight doubtless are more frequent than is generally supposed. The condition is usually noted in eyes which have been operated upon for cataract, and often being of but momentary duration, and developing, as a rule, after the patient has been discharged as recovered from the result of the operation, leaves but little or no doubt that in many instances this symptom is not mentioned or complained of by the patient, and thus not brought to our notice.

Erythropsia may occur subsequent to other opera-

tions upon the eye, as in iridectomy; it has also been observed in eyes which have not been subjected to operation at all, but less frequently. The development of this phenomenon usually takes place after the eyes have been exposed to some brilliant or dazzling light, and perhaps the most frequent cause in eyes which have not been operated upon is the dazzling light reflected from a large surface of fallen snow, although it may be produced by the eyes being subjected to any glaring light, as after observing a sun eclipse, or can even come on after over-heating of the body. Erythropsia produced by dazzling from snow occurs more frequently in high altitudes. In Artic regions, where there is much snow-blindness, but where the elevations are slight it is not observed. Fuchs,[1] however, demonstrated that by allowing more light to reach the retina by dilating the pupils, and then there being an exposure to snow, it would occur just as often at low altitudes as in high ones. The congestion occurring in overheating, after eating, dancing, in suppression of the menses, in anger, etc., are only predisposing factors to the development of the condition, as there must be an excessive reaction of the retina to light in addition to bring it about. Atypical forms may be present, as in an epileptic aura, or where there is an intra-ocular hemorrhage giving rise to red vision. An interesting case mentioned in history is that of Henry IV. of France. While playing chess on the eve of St. Bartholomew's massacre, the chessmen appeared red.

The onset of erythropsia is usually abrupt, the patient suddenly observing everything to be of a vivid red color, the duration of the sensation varying from a few minutes to several hours. It is quite apt to recur frequently, and apparently does no harm to the visual power of the eyes.

On January 8, 1896, I performed an operation for the extraction of a cataract from the right eye of P. C., aged sixty-eight years. The operation was the combined one, or extraction of the lens with an iridectomy. There was no accident or complications at the time of the operation, and the healing of the wound was good and prompt. About four o'clock one evening, early in March, the patient observed that everything suddenly became of a vivid red hue, and remained so until night. The next morning this phenomenon was not present, but again appeared at about four o'clock in the afternoon. Some days it was absent altogether, but appeared every three or four days at most, and always between 4 and 6 P.M. At first the color was an intense red, but gradually shaded off, becoming a lighter and lighter tint of red until about May 15th, or two and one-half months after it was first observed, it was no longer noticeable, nor has it appeared since. When the erythropsia first became manifest there was snow on the ground, and the patient had been out in the open air and his eye was exposed to the reflection of the light from the glaring surface of the snow for several hours, and this seems to have been the exciting factor in the causation of the condition. The vision in the eye equalled two-thirds ($\frac{2}{3}\frac{0}{0}$) with a proper glass, and Jäger No. 1 type was read without hesitation. At no time was the acuteness of the vision interfered with by the erythropsia.

Fuchs' thinks the glare is the sole factor in producing erythropsia, and that the seat of the phenomenon is in the retina. Schulek[2] believes that the cause is not entirely in the retina, but in a measure in the primary brain-cells. He states that the phenomenon appears because the ultra violet centers become tired and allow an over action of the red centers, and defines erythropsia as a regenerative condition of the red-green sight substance caused by photochemical irritation, which has created a condition of exhaustion in the brain-cells.

Another theory advanced, by whom I am unable to recall, is that erythropsia is caused by the active regeneration of the visual purple under the influence of a strong light stimulus. Certainly the glare is largely concerned in bringing about the condition, as it is scarcely ever observed where glare is absent, and is of comparatively frequent occurrence where people are obliged to travel over fields of snow. It has been noted in many cases that the point of fixation, corresponding to the macula, does not appear red, and when at all only after there has been exceedingly strong excitation. The cones of the layer of rods and cones of the retina cannot be the seat of the phenomenon in such instances, as they do not contain the visual purple, and the rods, which alone possess this substance, do not exist in the macula. If we accept this theory, a strong light stimulus acting upon the rods (as they alone contain the visual purple) inducing an active regeneration or excess of formation of the visual purple, is probably the principal etiologic factor in erythropsia. Dr. Greef[3] of Berlin reported a case of erythropsia in which the patient could only distinguish between red and black. No other color was perceived. Here other factors were probably concerned in the etiology.

The salient features of the case reported were the appearance of the erythropsia following an exposure to the glare arising from a large surface of snow; it was more intensely red at first, gradually fading, and ultimately disappearing entirely; it was always manifest at about the same hour, and it occurred in an aphakic eye. For some days before and after the appearance of this red sight the ground was cov-

[1] Graefe's "Archivs," vol. xlii, October, 1896.

[1] *Annales Oculistique*, 1895.
[2] *Ungar. Beitr. z. Augenheilk.*, 1, 1895.
[3] Ophthalmological Society of Heidelberg, 1895.

ered with snow, and the patient was out more or less each day, and not protecting his eyes specially from the dazzling reflection from the glaring surface of snow, and the fact that the eye was a post-operative one, more light reaching the retina through the coloboma than was usual, leads me to conclude that these were the only factors concerned, in this instance, in bringing about the condition.

NON-MALIGNANT STRICTURE OF THE RECTUM.[1]

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A NON-MALIGNANT stricture of the rectum may be defined as a pathologic condition in which there is a progressive narrowing of the rectal canal following a loss of tissue, the result of ulceration or of trauma, and the subsequent contraction of the inflammatory tissue. As causes of the local conditions producing rectal stenosis we have syphilis, trauma, simple ulceration, gonorrheal and chancroidal ulcers, dysentery, phlegmonous proctitis, and tuberculosis as active factors. Syphilis is the most frequent cause, and one-third of all cases may be attributed to it. Curling in twenty cases of stricture found nine which he ascribed to obstetric trauma. Strictures have followed operations for hemorrhoids, fistula, and prolapsus recti. Cripps in seventy cases found one of tubercular origin. In the "Medical and Surgical History of the Rebellion" there is not a single case recorded in which stricture followed dysentery.

Stricture is more common in the female than in the male sex, in the ratio of three to one. Penet studied post-mortem the location of stricture in fifty-eight cases, and found them situated at the following distances: Commenced at the anus in four, below 6 cm. (2½ inches) in thirty-two, at 6 cm. in three, between 6 and 9 cm. (3⅜ inches) in seven, above 9 cm. in five, and at the junction of the rectum and colon in five.

The symptom first noticed is constipation alternating with diarrhea, or the discharge of bloody mucus. Vomiting, anorexia, and emaciation, accompanied by hectic fever, with headache and vesical disturbances, are among the later symptoms; acute and complete obstruction is rare, the patient generally dying from exhaustion or some intercurrent disease before this occurs. A positive diagnosis can only be made after a local examination. Treatment may be by dilatation, electrolysis, internal and external proctotomy, inguinal or lumbar anus, plastic operations, anastomosis, and excision, perineal or sacral. The treatment by perineal excision or resection, after Dieffenbach and Volkman, or as Van Hook has termed it, modified amputation of the rectum, is the best method of treating non-malignant rectal strictures which are not situated above the peritoneal level.

As an argument in favor of the superiority of this method, and as a means of describing the technic, I report two cases of rectal stricture in which permanent cures were attained by amputation of the strictured portion of the gut.

CASE I.—Mrs. A. J. B., aged thirty years. Nativity, Irish. Was admitted to the Cook County Hospital, March 28, 1895. Family history negative; married ten years. Seven years before she had a premature labor; not been pregnant since. Shortly after marriage she contracted some kind of "blood" disease, which caused loss of hair and a cutaneous eruption, for which she was treated two months. About six years before admission to the hospital she began to have symptoms of rectal disease. At first she noticed a bloody purulent discharge from the bowel associated with considerable pain and tenesmus on defecation. About one year after the appearance of the first symptom she became aware of increasing difficulty in having a bowel movement. At the time I saw her her bowels moved about once a week, and then only after repeated efforts. At such times a large quantity of fluid feces, blood, and pus was discharged. About one year before a fistula had opened on the buttock at the left of the anus.

The patient was greatly emaciated, pallid, and very weak. Numerous copper-colored scars were distributed over the body; lymphatic glands moderately enlarged; heart and lungs negative; abdomen distended. Patient complained of constant pain over the whole abdomen, and marked tenderness in the right iliac fossa.

Rectal examination showed a large ulcer just above the anus mostly on the posterior surface of the gut. Above the ulcerated area, at a distance of 1½ inches from the anus, was a circular constriction, which would just admit the tip of the finger, but through which the finger could not be forced. On examination with a sound it was found that a No. 28 (French) urethral sound would just pass through the strictured portion of the gut. On vaginal examination, the upper limit of the stricture could be felt, which showed it to be of the annular variety, about one inch in length. One inch to the left, and a little behind the anus, there was a fistulous opening from which was discharged bloody pus. A sound passed into this fistula apparently passed into the rectum above the stricture, and could be felt through the recto-vaginal septum.

A few days after admission an incision was made, laying open the fistulous tract, and completely dividing the stricture and posterior wall of the rec-

[1] Read before the Illinois State Medical Society.

tum. The sinus was then thoroughly scraped with a sharp curette, the bowel washed out with sterile water and the wound packed with iodoform gauze. Rapid improvement in the patient's general condition immediately followed, the pain disappeared, the appetite improved, and the temperature became normal within a few days. At the end of six weeks a radical operation was attempted. The wound had almost healed by granulation, and ulceration had nearly disappeared. The patient was placed in the exaggerated lithotomy position and the part exposed by stretching the sphincter, which, of course, reopened the wound in the posterior rectal wall. The rectum was then denuded of its mucous membrane from the mucocutaneous junction to the lower limits of the stricture. This dissection was carefully made so as to avoid injuring the underlying sphincter. The hemorrhage at this stage was profuse, but was easily controlled by pressure and hemostatic forceps. The rectal wall was now divided throughout its entire circumference at the lower limit of the stricture, and by careful dissection the entire cicatricial mass was separated from the surrounding tissue. During the process of separation traction was made on the strictured portion of the gut, so that when the mass was entirely free it protruded beyond the anus. The rectum was then amputated just above the stricture, and the cut end attached to the skin, first by three deep sutures, and then by a row of superficial intermediate sutures. A rubber tube six inches in length and three-fourths of an inch in diameter, wrapped in iodoform gauze, was introduced into the rectum, while gauze drainage was placed in the wound and an ordinary antiseptic dressing applied. The after-treatment consisted in frequent change of dressings, liquid diet, and keeping the bowels inactive for one week. The patient left the hospital about six weeks after the operation, apparently in perfect health. Twenty-one months after the operation she was still enjoying good health without any return of the stricture, and with excellent control of the sphincters.

Case II.—Mrs. E. J. S., American, aged thirty-four years; married. Consulted me in January, 1894. Family history negative. Married fourteen years; had had two children, the elder being twelve and the younger ten years of age. Venereal disease denied; never had any illness excepting that which followed last confinement, and which was said to have been puerperal fever Present illness began about three years before, with pain and tenesmus on defecation, accompanied at times by discharge of large quantities of pus and mucus. Constipation gradually became more and more troublesome, until only by the constant use of cathartics could the bowels be moved. One year after the first symptoms were noted she consulted a physician who recognized the condition and treated her for nearly a year, by passing graduated bougies. Under this treatment, and with careful regulation of the bowels and diet, she improved. At the end of this time she went to reside on a farm where she could not get proper treatment. Her condition rapidly grew worse, all the old symptoms returning in an exaggerated form. At the time that I made the first examination she appeared greatly emaciated and very weak. The skin was somewhat jaundiced and the tongue heavily coated; pulse was accelerated; the temperature slightly above the normal. The abdomen was greatly distended and somewhat tender on pressure. Rectal examination showed an annular stricture beginning about 1¾ inches above the anus, and involving as near as could be determined, by vaginal examination, about 1¼ inches of the bowel. The stricture barely admitted the tip of the examining finger. Treatment by gradual dilatation was immediately employed. This, with regulation of the bowels and diet, again produced marked improvement. After six months of treatment, the patient unfortunately was forced to leave the city. During an absence of four months, all treatment was discontinued, with the result of a return of the symptoms. At the end of this time, on returning to the city, she readily consented to an operation, with the hope of having permanent relief. In October, 1894, I operated, removing the strictured portion of the gut, as in the case above reported. This was followed by complete recovery. When last seen, one year and three months after the operation, there were no signs of a return of the stricture, nor had she any inconvenience.

DIABETES MELLITUS.

By H. G. NORTON, M.D.,
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visiting physician to St. Francis and Mercer Hospitals.

It seems to me that diabetes is on the increase. Just why I am unable to say; possibly the great amount of sugar and starch consumed may account for it. The following nine cases now under my care would seem to indicate that the disease is abroad, if looked for. I cannot recall a time when I have not had some cases, but never so many as now. I do not believe as many cases are met in the country as among city dwellers. I make it a habit to examine the urine of nearly every patient under my care, which may account for the number of diabetics now among my patients. I am certain of my tests and my solutions. Usually I permit the specimen to be examined to stand twelve hours or more to allow any uric acid to settle, using the upper strata for examination. A drop of muriatic acid added to the urine will more quickly precipitate the uric acid. When the urine is scanty and high-colored, according to Tyson, it is always best to eliminate this source of error by adding hydrochloric acid, making sure that the urine is again made alkaline before being tested.

Case I.—Female, stout, single, aged sixty-five years. In good circumstances. Always a very careful and proper liver. Is losing flesh, her hair is falling out, and she shows signs of general impairment of health. Is not very careful as to her diet,

and is not holding her own She has pruritus vulvæ at times.

CASE II.—Female, stout, married, aged seventy-five years; mother of five children. Is in good circumstances. A full feeder. I was led to examine this patient's urine because of a history of ineffectual attempts to cure an obstinate attack of pruritus vulvæ. Careful dieting soon removed the intolerable itching, and she is doing well on a moderately strict diet.

CASE III.—Female, Hebrew, stout, married, aged forty-five years; has had one child. Is in good circumstances. Dieting and treatment do not diminish the amount of sugar much, but she is not losing weight.

CASE IV.—Male, colored; a clergyman; medium weight; married; aged forty-five years. In good circumstances. Has extreme thirst and polyuria.

CASE V.—Male, stout, married, aged fifty-six years. In good circumstances and a free liver. Has lost seventy pounds since last spring. Strict dieting has nearly removed the sugar from his urine, and he is gaining in flesh. I have allowed him to gradually resume his usual diet, except sugar, sugary fruits, and grapes.

CASE VI.—Male, stout, married, aged sixty years; saloon-keeper. In good circumstances, free liver, and moderate drinker. Has eczema of legs, itching, and soreness of glans penis and prepuce, accompanied by great thirst. He is always improved by dieting.

CASE VII.—Male, stout, married, wealthy; aged sixty-five years. Has had but little treatment, and is holding his own.

CASE VIII.—Female, stout, married, aged thirty-three years. Mother of four children. In good circumstances. Found sugar in her urine during her last pregnancy, which she passed through uneventfully, except that her getting up was slow. Neither dieting nor the termination of pregnancy have removed the sugar.

CASE IX.—Male, stout, married, aged forty-five years. Has lost flesh. Dieting and treatment do not remove the sugar, but improve his general health.

Analysis of these cases shows five men and four women, all stout or inclined to stoutness, except the negro, all among the well-to-do, and free livers, none being of dissipated habits. My patients usually soon tire of a strict antidiabetic diet, and I find the various diabetic flours to be a poor substitute for ordinary wheat flour. As to treatment, I find that Fowler's solution and codein give me the best results, together with tonics, such as muriatic acid, strychnin, and quinin, as indicated. Some patients are glad to use saccharin, while others dislike it.

Among the diabetic patients formerly under my care was one boy, six years old, who died after a brief illness, no remedy or dieting seeming to have the slightest influence on his disease. He rapidly passed into a comatose condition and died. His mother was an extremely neurotic woman, who died of consumption afterward.

I have amputated the limbs of several patients for diabetic gangrene, nearly always with fatal results. I recall these cases: (1) Amputation of leg at lower third for gangrene of foot; died. (2) Amputated arm at middle third for gangrene of hand; died. (3) Negro; amputated leg above knee for gangrene of foot; recovered. (4) Negro; amputated toe for gangrene; recovered. After two or three years he returned with gangrene of the other toes and a deep ulcer over the external malleolus. His condition did not then seem to warrant an amputation, and he died a few days later.

WAR ARTICLES.

NEWS OF THE WEEK.

THE terrible loss sustained by the American forces in the recent battles before Santiago inclines one to wonder if the result would not have been different had General Shafter but waited, as it was expected he would do, for the reinforcements now on the way, and for additional artillery. According to the latest despatch as we go to press, "There is but little sickness outside of exhaustion from the intense heat and the exertion of the battle. The behavior of the troops was magnificent," but a thousand men were either killed or wounded! It is fortunate that the hospital ship "Relief" will so soon be at hand to assist the "Solace" and "State of Texas" in transporting the wounded to the well-equipped military hospitals in Florida, for even with the attendance of the Red Cross and other nurses, a seriously wounded soldier, with the prospect of a long illness before him, would have to battle against strong odds in the enervating climate of Cuba, no matter how favorable his surroundings might otherwise be.

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It is not generally known that the "Relief" is a medical and surgical supply-ship as well as a hospital ship. Her ice-manufacturing plant will produce two tons of ice per day, and with her distilling apparatus she can turn out 1500 gallons of pure water per day. In her sick wards she has 360 beds, but in addition carries 750 folding cots and 650 extra mattresses, so that almost any requisition from the field surgeons in Cuba can be filled without delay. Her supply of delicacies, wines, medicines, dressings, etc., is most abundant, and almost entirely made up by voluntary offerings from patriotic citizens in all parts of the country.

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The experience of our soldiers in the tropical cli-

mate of Cuba has necessitated a modification of Artemus Ward's graphic description of a hot-weather costume. Instead of "a shirt collar and a pair of spurs," which Artemus, if we remember rightly, recommended as a comfortable Kentucky outfit, our boys are reported as fighting valiantly in "a cartridge-belt, a chew of tobacco, and a smile." Flannel coats, blankets, etc., were dropped along the line of march, as their burden became utterly insupportable, and were promptly appropriated by the insurgents, the majority of whom are in rags, and who will doubtless find some way of saving the warm clothing for the cold season.

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The hot, humid weather of the past week, as experienced so generally throughout the United States, gave us just a sample of what our men are enduring at Santiago, and the light canvas suits, weighing about three pounds each, which have already been sent to them, will be a most timely and welcome relief. Twenty-four thousand of these lightweight canvas uniforms are already well on their way to the Army of Invasion.

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So far the elements have been with us. The dreaded rainy season has held off to such a degree that our men have kept in good condition, with very few exceptions. Our lucky star guided Admiral Cervera into Santiago harbor, and as a result the Army of Invasion was sent to the hill country in this neighborhood where the air and soil are infinitely more healthy and endurable to our Northern-bred men than the swampy lowlands surrounding Havana, where a month ago it was supposed the first United States camps on Cuban soil would be located.

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Our Board of Strategy seems so destined to make plans which unexpected circumstances cause to gang aft-agley, that it now appears only to be necessary for our Army and Navy to stand ready to take advantage of the blunders of the enemy.

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At the present writing Admiral Camara's pleasure trip with the Cadiz squadron has extended to the Suez Canal, and he is evidently pausing to mark the effect of his "bluff." Camara will surely go down in history hand in hand with that doughty warrior who "marched his soldiers up a hill and then marched them down again."

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And now the International Temperance Congress just assembled at Prohibition Park, Staten Island, suggests that candy or other sweetmeats and cake should not be sent to the soldiers because they are apt to produce a thirst, which may possibly be quenched by intoxicating drinks! We speak from slight experience, but we have always thought that a thirst engendered by eating sweets called for water, and water only.

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A welcome addition to the soldier's outfit will be the mosquito-proof tents which are to be sent to Cuba, Puerto Rico, and Manila. The tent is a small affair, made of fine, white cheese-cloth, may be readily carried in a knapsack, and weighs one and one-half pounds. When opened it is five feet high, six feet long, and three feet wide. It affords ample protection against mosquitoes, flies, insects of all kinds, and dew.

THE WOUNDED OF "ROOSEVELT'S ROUGH RIDERS."

FLAGSHIP "NEW YORK,"
OFF SANTIAGO, CUBA, June 30, 1898.

ON June 24th the Rough Riders were sent out ahead on scout duty on the advance of the army upon Santiago. The country is very hilly and is covered with brush, and is almost impassible in places. Suddenly the Americans were made aware of the presence of the enemy by a fierce musketry volley that came from an ambuscade. Our men immediately fell flat on the ground and began to fight in Indian fashion, shooting only when they saw a Spaniard. The enemy fired at random, and, as one of the Riders said, if we had been hit as often with bullets as we were with leaves there would have been nothing left of us.

The Americans, although outnumbered, advanced steadily, going forward by short dashes when the opportunity offered, then falling flat on the ground to fight again. The wounded, such as were able, were told to walk to the camp at Siboney, a distance of four miles. When they arrived there the first seven were sent to the U. S. S. "St. Louis" for treatment. One man had been struck three times, once in the neck by a lead bullet, which was removed, the second and third wounds having been produced by Mauser bullets, one passing through the muscular tissues of the left forearm, the other entering his body near the coccyx, and passing through the gluteal muscles. Neither of these wounds presented laceration, but were of the simple punctured variety, the wound of exit being larger than the wound of entrance. There was considerable laceration in the neck wound.

Another man was shot, probably by a forty-five-caliber brass-jacketed lead bullet through the back of the right forearm. There was considerable lacera-

tion of muscles and tendons, and a small piece of the radius was chipped off. The wound was large and gaping. The parts were trimmed up, the muscles and tendons sewed together, and the wound closed without drainage, the arm being placed on a splint.

The most interesting case from a surgical point of view was that of a man who was shot by a Mauser. He was struck as he was making a dash forward. The ball entered the dorsal aspect of his penis just to the right of the base of the glans, proceeded backward and to the left, injuring the lower portion of the urethra, then entered the superior portion of the scrotum, went downward through the left testicle and out of the scrotum on its inferior surface and grazed the inner side of his left thigh. This man had walked four miles after receiving the wound. When he arrived on board the "St. Louis" he was placed on the operating-table. As his penis was very much swollen and black from effused blood, as was also the scrotum, and as he had a marked phimosis, a circumcision was performed and his urine drawn with a metal catheter. The catheter could be felt with a probe through the bullet wound and fluid injected into the meatus ran out of the lower wound, showing that the urethra had been partly severed. The urethra was distended with a number twenty-six French bougie and its floor repaired with a double row of sutures. A soft rubber catheter was left in the bladder and the scrotal wounds drained with iodoform gauze. This patient also had two punctured wounds of the forearm, neither of which showed any laceration.

One man received a Mauser bullet through his left ring finger. The ball knocked a little piece of bone off of the second phalanx and cut the skin and tissues on the side of the digit. There was one punctured wound of the soft parts over the scapula and another punctured wound of the soft parts of an arm. Both were produced by Mauser bullets and neither showed any laceration. Some of the injured men said that when they were hit it felt as if they had been stuck with a pin; others said they felt nothing and only became aware of their wounds by seeing blood. The range at which all these injuries were received was very short, probably between fifty and one hundred yards, yet contrary to expectation there was no lacerating effect produced by the Mauser bullet.

One of the first questions asked by almost every one of the wounded Riders was, "Doctor when will I be able to get into it again?" All seemed anxious to get back to their companies. None murmured when their wounds were being dressed, and all refused whisky when it was offered to them. When the Spaniards realize what plucky men they are fighting against they will talk less and think more.

RAYMOND SPEAR, M.D.,
Assistant Surgeon, United States Navy.

DISEASES COMMON TO THE PHILIPPINES: KAKKE, OR BERIBERI; DYSENTERY. POISONOUS SNAKES. MANILA IN TIME OF PEACE.

[From Our Special Correspondent.]

With Commodore Dewey's Squadron off Manila, Philippine Islands, May 15, 1898.

BY the time this reaches you the details of the battle of Cavité will have been fully reported by the daily press in America, and therefore I need not spend time in giving you an account of our inconsiderable casualties. Since the memorable events of May 1st, Commodore Dewey's squadron has been to a great extent inactive, the only occurrences of importance having been the occupation of Cavité by the marines, the occasional despatch of one of the ships to intercept a suspected blockade-runner, and the exchange of courtesies with a foreign war-vessel. The "McCullough" is expected hourly from Hong-Kong with dispatches from Washington and I hope to be able to send this letter by her on her return trip. Naturally there is not much to write about under the circumstances, but it occurs to me that a few words about Manila and the Philippines in time of peace may prove of interest.

It is very hot here, but the men are all in buoyant spirits and speculation is rife among them as to what the next move is to be, and whether reinforcements will arrive before the final attack is made on Manila. The health of the crews continues good, but while the American soldiers in their occupation of the Philippines will not be subject to the danger of yellow fever which threatens the army in Cuba, there are other diseases prevalent in Manila and vicinity worthy of consideration. The population of the city of Manila with its outlying wards is only about 250,000, yet the average number of inmates in the leper house is two hundred, and there are other lazarettos in different parts of the island. Two severe epidemics of cholera have visited the city during the last century, one in 1820 and another in 1858; but the danger of another outbreak of the disease in the immediate future is too remote to be considered. Dysentery, which is so deadly in some of the islands of this group, is less frequent and less virulent in character in Manila and other parts of the island of Luzon, though many deaths occur from it every year. The flannel bandage over the abdomen, habitually worn by the British soldiers in the tropics, and by many other Europeans here, is a

great preventive of dysentery and other intestinal disorders. One of the principal causes of the disease in this climate is bad water; but since about the year 1884 Manila has had good drinking-water, though the European doctors often insist on its being boiled.

During the rainy season, which begins about the first of July and lasts until the end of October, there are many cases of malarial and other fevers, and a form of malaria closely resembling typhoid is quite common in the city, especially at the beginning of the rainy season; but the marshy country around Manila is comparatively free from it. Epidemics of smallpox and measles are of almost yearly occurrence, and there are many deaths from the former though the latter is comparatively mild.

Among the native and Spanish troops syphilis is shockingly prevalent. In the military hospitals about twenty per cent. of the inmates are generally found to be suffering from this disease. Tuberculosis and bronchitis are very common among the natives, and in the military hospital in Manila a great many cases are always to be found. It has been asserted that seventy-five per cent. of the native troops in the hospital have one or the other of these diseases.

There is a peculiar disease often met with in the Philippine Islands, and also in China and Japan. The Japanese call it *kakké*, and from the ancient writings of Chinese physicians it appears to have existed in that country for centuries. It is commonly known as beriberi, and its victims are generally men between twenty and thirty years of age. It attacks both sexes, but women are much less susceptible to it than men. It is essentially a nervous disease, a neuritis, a kind of muscular paresis, and its symptoms are very puzzling to the novice. At different times it has been diagnosed as muscular rheumatism, locomotor ataxia, heart disease, Bright's disease, etc. There have been several epidemics of beriberi in the jail at Hong Kong, and it sometimes attacks British soldiers in these latitudes. Occasionally an isolated case is found aboard ship, and epidemics are not uncommon. Its victims are particularly liable to sudden death from paralysis of the heart, or of the muscles of respiration, edema of the lungs, or a combination of these conditions. Its most prominent symptoms are numbness of the feet, legs, and finger-tips, weakness of the muscles, difficulty in breathing, and palpitation of the heart. There are often painful cramps in the muscles of the calf and thigh. An attack is generally preceded by a period of restlessness and inability to perform customary work. The legs and knees of the patient are weak and he frequently has headache and chills. The face may become puffy and bloated and there may be other dropsical symptoms. He may suffer from these symptoms off and on for several weeks before becoming positively ill. With all the conflicting symptoms of this many-sided disease there are two which are never absent: numbness of the shins, and tenderness of the calves of the legs. The numbness often extends to the thigh and is felt in the arms and hands, especially in the finger-tips. If the case is severe, in a few days the patient may be unable to move about. The senses of sight, hearing, taste, and smell are generally unaffected, though the patient is incapaciated for any mental effort. There are two forms of beriberi, the dry and the wet. In the case of the former there is great emaciation, and often in an incredibly short time the body of the sufferer is reduced almost to a skeleton; in the case of the latter, the body is swollen and looks like one that has been several days in the water. Beriberi generally attacks its victims in the wet or hot weather; in the cold season it is practically unknown. It sometimes becomes chronic, returning periodically with the hot weather. After partial recovery, the muscles of the calf are sometimes shortened, so that the patient walks on his toes. Beriberi is generally recognized as a germ disease, but practically nothing is known of the germ itself. It is supposed to be indigenous to certain soils, as it exists only in particular localities, though this fact has not been positively established.

There is a strange affection which appears among the cattle of these islands. It is said by the natives that the internal organs of an animal affected by this disease turn to blood, and in an epidemic which occurred a few years ago one man lost eighty-five per cent. of his live stock. Personally I have not seen a case of this peculiar complaint, nor do I for the moment remember its name.

The European residents here complain of a tendency to scruff, which develops after a short stay in this climate, but they are generally loth to adopt the national preventive. In the forests of Luzon are a great many monkeys, and there is a belief among the natives that stewed monkey is an unfailing cure for all cutaneous diseases. To the stranger in these islands the idea of eating monkey-flesh may be very revolting, but there are few dishes more delicate than the young monkey stuffed and baked, though it does look very much like a small brown baby.

The cities, as well as the jungles, abound in insects, reptiles, snakes, frogs and lizards, land crabs, centipedes, tarantulas, huge poisonous spiders, locusts, beetles, and ants. Of all the snakes the ones most dreaded are those the natives call the *alupong*

and the *daghong-palay*. The bite of either of these is fatal if not cauterized immediately. The *daghong-palay* is found in the deep mud of rice-fields, and among the tall rice-blades. Every pool of stagnant water is alive with leeches, and in the forests there is a tiny leech which has a disagreeable habit of unexpectedly jumping into one's eyes. Swarms of ants are found everywhere. Some of them are the size of a pinhead, others are half an inch long, and they are so destructive that sometimes whole warehouses have to be torn down because of their inroads. They can eat through any wood except the very hardest.

In the Philippine rivers are huge caymans that are very cruel and bloodthirsty. The natives fear them so much that in cursing an enemy they say, "May the cayman kill him!" and there is a superstition among them that if they swear falsely, or break their promises, the cayman will kill them, and they can always cite instances in which this fate has happened to wrong-doers. In Manila mosquitoes are very troublesome; but there are few crawling insects about, for the reason that they are destroyed by the newt and a species of lizard called *chacon*. The newt is a strange little reptile, and if one is caught by the tail he shakes it off and runs away without it. At night huge bats fly about overhead, and these nocturnal visitors inspire the greatest horror in one who does not know what they are; for they often measure five feet from tip to tip of their wings. Bat-shooting is considered fine sport among the young men in the Philippines, and those who were compelled to stay long in Manila in antebellum days were glad of any form of amusement, for ordinarily it is a dull city, though the girls are said to be the most beautiful in the world. There are no popular cafés, no opera house, and absolutely no place of recreation. Not until 1887 were there any gardens in the public squares. The streets are narrow and badly lighted by petroleum lamps, and in the suburbs cocoanut oil is sometimes used for that purpose. The paving is wretched, and during the wet season it is almost impossible to get about. In the wards occupied principally by the poorest working-classes, huts with thatched roofs are still constructed, and the only drainage in this part of the city is by ditches cut around each square. In the wet season this district is a mass of pollution, many of the huts having pools of stagnant water under them for months. When the rains stop and evaporation commences, fever breaks out among these wretched people and many of them die.

Down in the city itself the conditions are somewhat better, and a foreigner could make himself fairly comfortable, for there are several Spanish hotels where the fare used to be decent, but the beds and other accommodations are very bad. Very few of the houses have more than the ground story and one upper floor. The former is so damp that it is used generally for lodging the native servants and for a coach house. Manila is not a place that would be chosen as a residence by a person looking for pleasure and comfort. The climate is very trying, except for about four months in the year, and a typhoon comes along occasionally and makes things lively for awhile. Manila's population of 250,000 is composed about as follows: Sixty-seven per cent. pure natives, thirty per cent. Chinese and Chinese half-breeds, and three per cent. Spanish and a few other Europeans. It is within the last hundred years that the Spanish soldiers were so badly and irregularly paid that they used to go begging from house to house about the city. I presume from present indications that before this letter reaches you, if Commodore Dewey continues to maintain the blockade in the present effective way, the officers and even the Governor-General will become accomplished mendicants as well. The entire male population over sixteen years of age are compelled to carry arms and consider themselves in the military service. There is a medical board, composed of European Spaniards, that has general supervision over the troops. The military hospitals are subject to the authority of this board, which nominates an officer to each of the regiments. This officer is called an *agudante*.

In America we often hear doctors complain of the fierceness of competition among the members of the medical profession, but in Manila there is a mob of third-rate native doctors who manage somehow to eke out a poor existence. They are mostly sons of ambitious natives who are anxious to see their children launched in the "learned professions."

It is to be hoped that whoever has charge of the commissary department of the American army will avoid tinned provisions and use fresh food whenever possible, for in this climate tinned meats spoil very soon and the cans become bulged, which shows that the contents are not fit to eat. Foreign residents in Manila generally find the meat of indifferent quality; but poultry in times of peace is cheap and plentiful. Cocoa is a much better tropical drink than either tea or coffee. Fruit is plentiful here and wholesome, if eaten in moderation; but the old adage, "fruit is gold in the morning, silver at noon, but lead at night," is particularly applicable to those who live in hot climates. There are many tempting-looking fruits and berries growing in these islands that are very poisonous, and one is never safe in eating unfamiliar fruits.

It takes some time for the American to become acclimated in the Philippines, and the United States

soldiers will find conditions here very different from anything to which they have been accustomed in the United States. Many cases of sunstroke among the troops are to be expected and they may find it hard at first to restrain their Yankee activity; but the tendency to indolence is drawn in with every breath of this enervating air.

There seems to be no reason why the American soldiers, if they come to the Philippines, should not be practically free from serious illness, as the bugbear of tropical disease can generally be avoided by a reasonable regard for the laws of health and observation of recognized sanitary precautions. If the American soldiers and marines feel dissatisfied with plain fare, which is the only proper and safe fare in this climate, they should remember that the battle of Cavité was won on a breakfast of hardtack and coffee.

THE MORBIDITY OF THE UNITED STATES FORCES FOR THE FIRST CALENDAR MONTH IN THE FIELD AT TAMPA, FLA.

By HENRY I. RAYMOND, M.D.,
CAPTAIN AND ASSISTANT-SURGEON, UNITED STATES ARMY.

I HAVE thought it would not only be of interest to statistically review the diseases affecting 10,000 regular troops during their first calendar month in the field at Tampa, but also to use this review as a basis of comparison for the morbidity that will be revealed during their first month of foreign invasion or occupation; or, perchance, for comparison with the morbidity of an equal number of volunteer troops.

The mean strength upon which the following statistics are based include 477 officers, 7978 enlisted men (white), and 1666 enlisted men (colored), or a total of 10,121. The number of days lost to the Government from sickness was 5120, or proportionally about one-half a day for each individual soldier included in the mean strength of the command.

There were ten cases of discharge on surgeon's certificate of disability, or one-tenth of one per cent. The causes of discharge were, chiefly, epilepsy, gonorrheal epididymitis, and ulcers from varicose veins, and one case of mild insanity was sent to the Government Insane Asylum at Washington.

Of course, epilepsy and insanity are conditions incompatible with the responsible duties of the soldier, and the other conditions above mentioned impede a soldier's locomotion and paralyze his efficiency, for, as declared by a contemporary of Frederick the Great, and as substantiated by the experience of military commanders since his time, the efficacy of a fighting force depends largely upon the power of marching, or (to paraphrase it) on the strength of the legs. Add to this an adequate lung capacity (in which resides the staying powers of the individual), and we approximate very closely to the physically ideal soldier.

It is due to this weeding out process and to the careful recruitment of the past three years that such a splendid spectacle of physical symmetry and proportion was presented to the eye of the spectator when in brigade maneuvers on Tampa Heights a brigade of more than 2000 men was formed in line of battalions closed in mass.

Out of a numerical strength of 10,121 there were 1294 admissions to sick report during the month, or about one-eighth of the entire force presented itself before the medical officer with diseases sufficiently serious to disable for active duty for a longer or shorter period, averaging for the month, as above stated, the loss of about one-half a day to the Government for each individual included in the mean strength of the command, or about four days for each man admitted to sick report.

Among the cases admitted it must be noted that seventy-four were simple vaccinia, or temporary induration with tenderness at the site of vaccination, inoculation with vaccine lymph being practised to a considerable extent on the troops in the field. The most frequent cause for admission, however, was diarrhea, there being 556 cases of this complaint out of the 1427 cases of disease accounted for in the consolidated report for the month, covering 133 cases remaining from the previous month, and 1294 cases admitted during the current month. Whatever may have been the causes of these diarrheas, and they have been variously attributed to heat, to marked diurnal variations of temperature, to indiscretions of diet or cold drinks when the soldier was overheated, to sleeping upon the ground, etc., it was noted by me that as soon as the men were placed upon the transports these catarrhal conditions of the intestinal canal tended rapidly to disappear, and the opposite condition—one of relative constipation—set in. But, again, the consolidated report shows but six cases of alcoholism during the month. Think of it! But six cases of alcoholism among 10,000 soldiers for thirty days on an active campaign! Can the municipal records of a town of that size in an average community vie with that report? Under my personal observation in Tampa and vicinity during the past six weeks there have come but two or three cases of drunkenness, and no case of beastly intoxication. Beer has been consumed, but only in moderation, and the soldiers have largely resorted to non-alcoholic drinks.

There have been 36 cases of heat exhaustion, but all of them mild, and promptly relieved by the plentiful use of cold water to the head and forearms, and there have been 80 cases of wounds (not gunshot), usually slight, and 77 cases of contusions and sprains, also slight or insignificant, as a rule, together with 30 cases of abscess or localized pus formations, such as otorrhea, whitlows, and the like, and also 27 boils, occurring chiefly in cavalrymen. But 7 cases of typhoid fever are recorded, although among the 33 cases classified as "not diagnosticated," there were doubtless a number of typhoid cases transferred to Divisional Hospitals before the diagnosis had been established. One surgeon reports two cases of gonorrheal ophthalmia, and states that they were undoubtedly innocently contracted owing to concealment and lack of precautions on the part of one or two individuals who were found to suffer from a specific urethral discharge.

An inspection of companies was made in the appearance of the second case, and a thorough investigation of the command in which the disease appeared, together with a word of advice, stopped further infection.

The 1427 cases of disease and injury in the consolidated report are classified under fifty-four headings. Those most frequently encountered, and in the order of their frequency, appear in the following list:

Diarrhea, 556 cases; wounds (not gunshot), 80 cases; contusions and sprains, 77 cases; vaccinia, 74 cases; malarial intermittents, 54 cases; rheumatism, muscular, 48 cases; heat exhaustion, 36 cases; gonorrhea, 34 cases; simple abscess, 30 cases; dyspepsia, acute, 27 cases; boils, 27 cases; skin affections, 25 cases; bronchitis, acute, 25 cases; intestinal colic, 24 cases; chancroids, 19 cases; hemorrhoids, 18 cases; measles, 11 cases; syphilis, 10 cases; gunshot wounds, 5 cases; appendicitis, catarrhal, acute, 1 case.

The daily average sick of the command was only two-tenths of one per cent. No death was reported. These statistics refer only to regular troops, but one report of sick and wounded having been received from volunteer regimental surgeons up to the date of consolidation. It is expected, of course, that the sick of the volunteer commands will figure in subsequent consolidated reports. The troops are now in Cuba, but the vigilance of the sanitary officers of the command cannot be relaxed. During the first night on the transport "Saratoga," to which I was attached, provision had to be made for accommodating as many enlisted men as possible on the cabin decks, while very few were allowed to remain below, where the temperature was over 100° F., and proper ventilation impracticable while the transport was detained at the dock for loading.

Daily cleansing of the decks and policing of the vessel, and thorough and frequent flushing of water-closets, and other sanitary precautions were promptly inaugurated as preventive measures against sickness.

As the "Saratoga" was about to swing from her moorings for a cruise around the bay in search of a breath of fresh sea air, your correspondent was detached from the vessel by a War Department order, directing him to report at Chickamauga National Park, and he had, therefore, to forego the distinction of accompanying the first Army of Invasion upon Cuban soil.

THE ADVANTAGES OF THE CAMP AT CHICKAMAUGA—HARD WORK FOR THE RECRUITS—REMARKABLE HEALTH OF THE TROOPS.

(Special Correspondence of the MEDICAL NEWS.)

Camp Geo. H. Thomas, Chickamauga Park, Ga., Headquarters First Division, First Army Corps, July 3, 1898.

THIS is an ideal place for a camp. It is on a plateau between Lookout Mountain on the west and the Buzzard Roost range on the east, from 600 to 700 feet above sea-level. The soil is clay, non-absorptive, on a limestone formation which crops out in the dips and hollows. The hills are mainly gravel deposits, the moraines clearly showing glacial action. This broad plateau is covered by a growth of oak, hickory, and Southern pine, from which within the park limits the underbrush has been cut. The natural water-supply is from the celebrated Crawfish Spring and Cave-rock Spring, from the former of which a pipe line, six miles long, has been laid which affords all the troops not only with a plentiful supply of cooking and drinking-water, but also is amply adequate for bathing purposes. This is supplemented by driven wells, which are from 60 to 150 feet deep, and piped to bed-rock so as to prevent any surface drainage entering in any way. The climate is warm, 104° F. in a tent not being uncommon temperature, but the extreme dryness of the atmosphere renders it possible to do very much more active labor than one could in New York with the thermometer registering 80° or 90° F., and with the amount of humidity customary in July or August. The dryness of the air here is shown by the fact that after the battle in September, 1863, there being no rain for some time, many of the killed, lost in the underbrush which then covered the battle-field, were afterward found mummified. This great dryness makes the dust very trying, and were it not for the thunder showers which occur frequently, and with almost a tropical downpour, it would be unbearable. The clayey soil is capable of pulverization into an almost impalpable powder, which sifts into every nook and crevice with astonishing rapidity, and the encampment can easily be distinguished from Lookout Mountain by a dense, yellow cloud which obscures it during the day, due

to the feet of marching men and 7000 mules and horses. The thunder showers wash this from the atmosphere, leaving it clear and wonderfully pure.

The first thing that strikes one at this camp is the tremendous grim earnestness of all, both officers and men, and the singleness of purpose animating every one. The material is wonderfully apt and adaptive. Originally clerks, farmers, mechanics, lawyers, doctors (for not a few of our profession are in the ranks), from all callings in life, they are being hammered into shape as soldiers by the hardest sort of drill and training. It is wonderful to see them improve almost daily. By weeks the improvement is as distinct as the steps on the pyramid of Gizeh. The raw Kentucky mountaineer comes in lank, slouchy, and stooping, shambling of gait, careless of his personal appearance, and in many cases barefooted, and anything but soldierly in carriage. A week's setting-up exercises, calesthenics, given an hour every morning and afternoon, the clean uniform that must be kept just so clean, and the daily inspections make a new animal of him—clean, straight, intelligent, and neat.

We have not many sick; the men are getting acclimated, and are learning to care for themselves. Regiments, like the First Maine and the Wisconsin troops, which came with good camp cooks, drawn from the lumber camps, who could properly prepare the rations, have had little or no trouble with their food, but some of the regiments from other States, mainly recruited from small towns, have had much to contend with in this respect.

The very hardest thing for the National guardsman or militiaman to unlearn is the fact that he is no longer in any State organization, and that this is not the summer camp which in days gone by has been a place of pleasant outing, but is *war* and that it means *work*, *work*, *work*, of the very hardest kind. They have first some things to unlearn, and then they must begin to learn, first that in the army the cleanliness that out of the army is next to godliness takes precedence of every thing else by miles. *Clean, clean, clean, be clean!* is the cry of every inspecting officer, and the habit of cleanliness is the hardest thing to teach the National guardsman, for he has always had some one to keep him clean, and he thinks it tough and soldierly (God save the mark!) not to change his undershirt any oftener than possible.

The prevailing disorders have been mainly enteric, and the causes have been threefold: first, the improper preparation of what was really a most excellent ration by bad and inexperienced cooks; second, exposure to cold after the evening meal. This is explained by the fact that the men come in from evening parade, which occurs just after supper and while the day is yet warm, and many of them do not change their underwear which is wet with perspiration, for the suit which they should have worn the day before, and which should be ready and well sundried, but lie down in their wet perspiration-soaked clothes. The nights are quite cool here and the radiation very great, consequently the trooper needs two blankets before daylight, as a rule. The body surface of these men gets chilled, and digestion being stopped, diarrhea follows from fermenting undigested food. The third factor is the "boxes from home," sweets, so-called soft drinks, and cakes and pies, all of which are much more deadly than any Spanish bullet. The improper preparation of food is being remedied by the process of natural selection, while the ills connected with damp clothing by the care of company and medical officers is rapidly disappearing. A stringent order from headquarters absolutely prohibiting the sale of soft drinks, pies, cakes, etc., has recently been issued, and with marked results of improvement.

This, in a way, brings me to speak of regiment canteens. Strange as it may seem to the advocates of total abstinence, the regiments which have a regimental canteen and which regulate the sale of beer to their own troops have also the best sick reports. I may say that there is also absolutely no drunkenness among the troops. This is very strange among such a large body of men, but it is true, and the proof is that there are no prisoners in the guard-tents—not even enough to police the camp sinks and keep them clean for a punishment. The reason for this is that in the intense absorption of the men in their work they have no time for carousal, and in the doing of so much hard work they have weariness at night demanding sleep. Withal, a man intoxicated is a man disgraced with his comrades. The older officers, many of whom served in the War of the Rebellion, remark the improvement in this regard since that time.

The present organization of the Medical Corps is to separate almost entirely the surgeons from the regimental formations and to leave no sick in the regimental hospitals, transferring all to the division hospitals. This leaves but one surgeon with each regiment, all others being transferred to service in the division hospitals and ambulance service, the former receiving all cases from the regiments and the latter making all such transfers. The staff of each division hospital, consisting of a chief and five assistant-surgeons, is so organized as to receive and care for all such cases as would be classed as "in-patients" at one of our hospitals in New York, and those answering morning sick call who would be treated as ambulant or "out-patients" are cared for by the remaining regimental surgeon in their quarters.

The regiments have been vaccinated by half companies at a time and many of the men by reason of infected arms, a double infection in most cases, are for a few days unfit for duty. These, however, are rapidly recovering, the virus used being entirely bovine and of the best quality.

The problem of camp drainage has been the most difficult one in many ways to handle. The proper construction of the sinks and latrines and their proper disinfection and policing being something that even the highest medical authorities were at least inexperienced in arranging and directing, while to the National Guard, line, or field officer they were mysteries unsolved. The recruit himself, in the densest ignorance, thinking that camp sanitation had not improved since the days of Moses, when that great general led his troops out of Egypt, went out of camp and took his spade with him "every man that he might cover what he had done." He soon began to

meet poison oak and ivy, which quickly proved a case taken in *flagrante*. Upon this subject I will soon send the MEDICAL NEWS another letter as I have a design for a latrine which has been accepted by the commanding officers at Camp Thomas, medical as well as military.

The fact is all are learning, and the men here are becoming soldiers in every sense of the word. It was a grand sight to see 10,000 Pennsylvania, Ohio, Wisconsin, Illinois, and Kentucky troops recently leave the field at a swinging double to make room for those following on the day of the division review. Truly these men are getting into magnificent form and every day brings a smaller and smaller sick return, which shows that this camp is a thoroughly healthy place and for instruction and mobilization unequaled.

JOHN MCG. WOODBURY, M.D.,
Major and Acting Chief-Surgeon, 1st Division, 1st Army Corps.

MEDICAL PROGRESS.

Complete Removal of Tubercular Glands of the Neck.—LAPLACE (*Jour. Am. Med. Assn.*, June 4, 1898) advocates the complete removal of tubercular glands of the neck, believing that the sooner such foci of disease are removed the better. The patient can then convalesce and regain health under the influence of general tonic and hygienic treatment. The main contraindication to this method of treatment is the presence of tuberculosis of the lungs, for experience has shown him that the pulmonary involvement will grow with added vigor after the removal of affected cervical glands. Tubercular glands of the neck must be differentiated from Hodgkin's disease, from lymphosarcoma, secondary metastatic lymphoma, and from syphilis. The diagnosis is usually easy. After the removal of the glands patients improve rapidly, and only in exceptional instances is there a fresh development of other glands. If care is taken to make the incision a simple one, and to secure primary union, the resulting disfigurement is slight, far less than follows if the affected glands are allowed to suppurate and discharge.

A New Method to Restore an Asphyxiated Child.—STRINGER (*Vir. Med. Semimonthly*, May 13, 1898) calls attention to the fact that the asphyxiation of an infant after a difficult labor, being due to a lack of oxygen, may be overcome if the blood is kept oxygenerated, until the sensitiveness of the child is sufficiently restored to permit normal breathing to begin. He discovered quite by accident that this oxygenation may go on through the surface of the placenta if the latter is exposed to the air. Having had a miscarriage case at the fifth month, in which the fetus, the membranes, and the placenta all came away together, he wrapped up the specimen with the intention of examining it the following morning. Great was his surprise to find several hours later that there was still a pulsation of the heart. Life had evidently been prolonged by the aeration of the blood, which took place through the placenta. Stringer has since had occasion to test this method in the case of several full-term children born asphyxiated, and has found it to work admirably. As such cases usually follow long and difficult labors, the placenta is already separated in whole or in part, so that its removal does not present any difficulty. It is to be removed as soon as possible, its surface washed and exposed to the air, when the child will live an indefinite time, as it did in the uterus, without respiration. When respiration begins, which was not for twenty-five minutes in some of the cases, pulsation in the cord will cease, and it may be tied and cut.

Diphtheria of the Vulva.—COUES (*Bost. Med. and Surg. Jour.*, May 12, 1898) reports two cases of diphtheria of the vulva occurring in children less than two years of age, the diagnosis being confirmed by bacteriologic examination. In one of these cases the affection of the vulva was secondary to the same trouble in the throat, and the patient died. In the other the lesion was primary, and the patient recovered. This makes three cases of diphtheria of the vulva which Coues has seen in less than a year, so that the trouble is probably not very rare. He advocates the examination of the genitals of every female child who contracts diphtheria in its throat.

THERAPEUTIC NOTES.

Metrorrhagia of Puberty and Its Treatment.—ROMME (*La Presse Med.*, May 4, 1898) says that the metrorrhagia of puberty is a particular type of this trouble, and is due to a debilitated state of the system from tuberculosis, rheumatism, or some other disease, the uterus, however, being in an essentially normal condition. The metrorrhagia usually follows the first attempts at menstruation, and the flow of blood is either constant, or if it ceases when the patient is absolutely quiet, recurs upon the least effort. Examination yields negative results. Hydrotherapy, with massage and friction of the whole body with rough gloves, gives satisfactory results. Sea-bathing is a powerful restorative, but must be commenced with great caution. An out-of-door life and moderate exercise, with a bicycle or in some other way, supplemented by such tonic and laxative medicines as may be called for, generally effect a cure. There is little help to be expected from local treatment, though a weak antiseptic douche may be used to prevent infection in the upper genital tract. Curettage is rarely indicated. For hemorrhage which threatens immediate danger the patient should be kept on her back and ice applied to the abdomen, or hot vaginal douches be given.

The Acne of Young Girls and Its Treatment.—BROCQ (*Rev. de Therap.*, May 15, 1898) says that most girls who are troubled with acne of the face are continually rubbing and scratching it, not so much on account of any feeling of itching as because of an irresistible impulse to do so, which may well be compared to a mania. Hence the importance of requiring them to wash their fingers and brush their nails many times daily with a solution of boracic acid in order to avoid infection. Treatment should accomplish the following ends:

1. The overcoming of the coldness of the lower extremities by daily friction with cologne, spirits of camphor, or by flagellations with cold water.

2. The cure of any uterine difficulty.

3. The relief of habitual constipation, by the administration to the bilious of cholagogues, and to those with a flushed countenance of preparations of aloes. The latter should never be given to patients who have hemorrhoids or genito-urinary troubles.

4. The regulation of the diet. Small meals with little fluid at a time, and plenty of out-of-door walking should be the rule.

5. The avoidance of stiff corsets and stiff collars.

Alcoholic drinks, pork, fish, cheese, shell-fish, and pastry should be prohibited. The remedies which are of most value are the laxatives, especially magnesia and washed sulphur; the alkalies, intestinal antiseptics and betanaphthol. Sometimes arsenic, sulphid of calcium, chlorid of sodium, ichthyol, nux vomica, and carbolic acid are of service. Brocq has had good success with brewer's yeast, of which half a teaspoonful or more is taken in water with each meal. If brewer's yeast is not obtaintable, baker's yeast may be substituted.

These patients should never wash with sponges, but only with swabs of absorbent cotten, wet with a hot solution of borax and soda—two teaspoonfuls of boracic acid, and one each of borax and bicarbonate of soda to a quart of water. If there is much seborrhea, a little tar soap or compound tincture of benzoin may be added. At night the face should be washed with a naphthol soap, for which may be substituted once or twice a week the following mixture:

℞	Resorcin	ʒ j
	Ac. salicyl.	℥ j
	Sap. virid.	ʒ iij.

After the soap has been used the patient puts on each pustule a small amount of a pomade, prepared as follows:

℞	Resorcin		gr. j
	Betanaphthol, Camphor	aa	gr. xiiss
	Cret. preparat.		gr. xv
	Sapon. nigris		gr. xxx
	Sulph. precip.		gr. c
	Lanolin, Vaselin	aa	ʒ j.

The next morning the patient washes the face with spirits of camphor, and if she has to go out, applies a little of the following:

℞	Acid salicyl.	gr. xv
	Zinci oxid.	ʒ iij
	Lanolin	ʒ vj
	Vaselin	ʒ xij.

The face is then gently wiped and dusted with starch powder.

The Best Way to Rub in Mercury.—UNNA (*Rev. de Therap.*, May 15, 1898) says that mercurial inunctions are better made with a soap (*sapo cinereus*) than with the classical gray ointment. The soap is prepared from lard and potash-lye, to which is added five per cent. of benzoinated lard and one-third of its weight of mercury. In its therapeutic action 4 drams of this soap will equal 6 drams of gray ointment. The soap is rubbed in with the hand, which should be moistened with warm water four or five times during the fifteen minutes which are necessary to insure a thorough penetration of the mercury. There remains on the skin only a thin, grayish film. This method has several advantages. It is far more cleanly than the application of the ointment, the mercury is more quickly absorbed, while it is applicable to very greasy skins, which resist the ointment. Soaps may also be made of the salts of zinc, lead, etc., for the treatment of obstinate skin diseases, acne, lichen, etc.

Lavage in Gastro-Intestinal Affections of Infants.—EPSTEIN (*Rev. de Therap.*, May 15, 1898) has practised lavage in infants more than 2000 times, and has never seen the smallest accident result therefrom. A small glass funnel and a rubber tube 40 to 45 centimeters in length and 6 millimeters in diameter are all the apparatus required. It is necessary to introduce the tube to a depth of 23 to 30 centimeters (10 to 12 inches) in order to reach the stomach contents. As soon as the tube comes into contact with the walls of the stomach they contract and force out fluids, and if the organ is dilated usually a quantity of gas comes out also. Warm water, to which 3 parts of salt per 1000 have been added is used to wash out the stomach, not more than an ounce being poured in at a time. This quantity is introduced and withdrawn several times. Cyanosis may be produced by the introduction of the tube, but it is not dangerous in any way.

The lavage is contraindicated in collapse, and also in the presence of cardiac and respiratory lesions. It finds its chief use in acute gastro-enteritis in order to rid the stomach of the products of fermentation, to which are due the grave symptoms of this disease. But it should not be forgotten that the stomach of a healthy infant is empty one and one-half hours after nursing, so that if it is found to contain fluid three or four hours after nourishment has been taken, it is in a pathologic state. Lavage, therefore, can also be of service in chronic dyspepsia, as well as in the more acute forms of this disease.

Treatment of Somnambulism.—HIRSCHKRON (*Ther. Monatsh.*, May, 1898) says that somnambulism is an imperfect sleep, in which the motor areas are disturbed by dreams. While sleep-walking occurs frequently in individuals of a hysterical type, the treatment usually applied for such conditions fails of its purpose in somnambulism. He had good results, however, following the application transversely through the medulla of a galvanic current of electricity. Eight or ten sittings were sufficient to cure an obstinate case of sleep-walking, and a recurrence which took place some six months later was banished by a single application of the current. The galvanization of the medulla probably acts by strengthening the vasomotor centers, so that the flow of blood to all parts of the brain is abundant and the anemic condition of part of the brain which is responsible for the nightly excursions of the patient is done away with.

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A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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Address the Editor: J. RIDDLE GOFFE, M.D.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK.

Subscription Price, including postage in U. S. and Canada.

PER ANNUM IN ADVANCE $4.00
SINGLE COPIES 10
WITH THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, PER ANNUM 7.50

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LEA BROTHERS & CO.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK,
AND NOS. 706, 708 & 710 SANSOM ST., PHILADELPHIA.

SATURDAY, JULY 9, 1898.

THE SPANISH BULLETS.

THE terrific execution done by the Spanish bullets among our troops in Cuba, and which at first led to a severe arraignment of the Spaniards on the supposition that they had mutilated the dead, is explained by the fact that they used rifles of small caliber, but affording great initial velocity to the projectile. The Mauser rifle used by the Spanish army, and the Krag-Jorgensen with which our regular troops are equipped, are weapons of this character. It was to be expected that the wounds inflicted upon the Spaniards by our troops would be of the same description as those sustained by our men. A careful examination of the Spaniards kil'ed in the various engagements confirms these expectations, and therefore refuted the charge of mutilation.

The missiles from these weapons work their worst havoc at the point of exit. The wound of entrance, wherever it may be, regardless of the varying density of the different tissues of the body, is usually no larger than the size of the bullet, while the orifice of exit is large and jagged. Whatever theory may be accepted as the explanation of this fact, the effect is beyond question. The careful observations of Dr. Orlando Ducker are of value in this connection. His investigations were made at Camp McCalla, where he had the opportunity of observing the dead of both parties to the conflict. A typical illustration of what he found is presented in the description of the wound in the head of one of the regular Spanish soldiers. The ball entered the frontal bone two inches anterior to the right parietal suture, and two and one-half inches above the temporal articulation, traversed the brain longitudinally, and passed out through the right occipital bone midway between the mastoid process and the occipital protruberance. The wound of entrance, as far as the inner table of the skull was involved, was clean cut and the size of the bullet, although from the outer table a piece was chipped off at the lower margin of the orifice. The wound of exit was irregular in shape, and measured about one inch in diameter, damaging alike the inner and outer tables of the skull. There was a complete longitudinal fracture through the frontal bone. In this case, as in a similar one described, the fracture did not communicate with the wound of entrance or that of exit. These fractures are supposed to have been due to the great velocity of the missile through the brain substance by which sufficient time was not allowed for cell compression, resulting in the bursting of the skull, so to speak. This effect is intensified by a deforming bullet or by an expanding bullet, as it widens the area of compression. An exploding bullet would be still more destructive, but there is no evidence that such a missile is being used by the Spanish forces.

A recent investigation of some samples of Mauser cartridges used by the Spanish troops which were sent to Washington by the marines at Guantanamo, has aroused the indignation of ordnance experts. The bullets were found to be enclosed in brass casings, which, as is well known, can hardly fail to cause blood-poisoning in a person wounded by them, no matter how slight the injury. The use of brass casings is considered nothing short of barbarous, and is not countenanced in warfare by civilized nations.

MALARIA IN THE TROPICS AND ITS PREVENTION.

THE diseases incident to the campaigns in Cuba and the Philippines that are held most in dread even by the medical profession are yellow fever and dys-

entery. The fact that malaria causes more deaths than both of these, except in seasons of unusual epidemics, is often lost sight of. Accustomed to the mild attacks of malaria in their native country, which is looked upon as a distressing illness not particularly associated with danger, it is forgotten that tropical malaria is in the vast majority of cases (from seventy-five to ninety per cent.) an entirely different disease in its manifestations and termination. Even though subject to the most orthodox treatment, it is one of the most fatal of the infectious diseases.

The lesson to be learned from this is that the mortality of our troops in the present war must be kept down by adopting measures that will serve to prevent infection. But prophylactic measures can only be effectual when based upon accurate knowledge of how the infection gains access to the system. The recent investigations of Koch in the German Colonies of East Africa tend to show that the conveyance of the disease by the atmosphere or by water is quite improbable, while, on the other hand, the fact that the disease can be communicated by suctorial insects, particularly by the mosquito, he believes has been established beyond peradventure.

This belief is gradually gaining adherents among our best experimenters and observers, and the investigations of Mason, of Ross, and of others, as well as the corroborative testimony of those who have great personal experience in the Oriental tropics, tend to make this teaching worthy of acceptation.

It is a fact that malaria affects those who engage in breaking up the soil; those who sleep on or near the earth; those who bathe in and drink stagnant, marshy water; those who are fatigued by long marches and enervating surroundings; but it would seem to be becoming yearly more evident that these are merely contributory causes of a kind that may be operative to facilitate the occurrence of any infectious disease. The fact that none of the plasmodia of malaria has yet been found in any other human media than the blood is a very strong argument in favor of the view which attributes the spread of malaria to the propagation of blood parasites by the mosquitoes.

It will be seen from reading our Berlin letter of this week that Koch considers the use of the mosquito net the most efficient means of preventing malarial infection. He, like other investigators and travelers in infected countries, was able to completely ward off the disease by the employment of this comparatively simple expedient. This, taken in connection with the statements of Emil Pasha and other travelers concerning the efficaciousness of mosquito-netting, tends to increase our faith in it as a part of the soldier's outfit. It may be possible to provide our troops with mosquito netting and hammocks made of some extremely light material. Then, if discipline is enforced with sufficient rigor to prevent soldiers from bathing in marshy, stagnant water, where mosquitoes find their greatest facility in propagating, in becoming the extra corporeal host of the plasmodium, and in carrying their poison into the human body, our campaign in Cuba may be robbed of what verily seems to be now one of its greatest terrors.

Another very important fact that should not be lost sight of is that most investigators of the etiology of malarial fevers are united in the conviction that quinin is the most reliable prophylactic agent, although it is often given in too large doses. Koch avers that "black-water fever" is nothing less than hematuria due to the toxic effect of quinin, plus malarial fever. There is no doubt that the plasmodia are extremely susceptible to the action of quinin, even when given in small quantities. Our soldiers should profit by the experiences of the French troops in Madagascar and of the Germans in their East African possessions in warding off malaria. It was the unanimous sentiment of those who studied the medical side of these campaigns that quinin, 6 to 10 grains in twenty-four hours, was a most efficient prophylactic, provided reckless and unnecessary exposure was avoided. The most reliable preparation is the hydrochlorate, and the most suitable way of administering it is in capsule or tablet form at meal time.

Dr. Hyatt, the United States Consul formerly at Santiago de Cuba, in a recent personal interview, stated that during his two years of residence there his only means of avoiding malaria was by the constant administration of quinin. By taking about 4 grains of the sulphate of quinin uninterruptedly every day during the past year, every member of his family had escaped without an unpleasant symptom. The least remission in this custom, however, was attended by immediate warnings. This is the testi-

mony of a physician who had not only studied the local climatic and sanitary conditions for a year, but had endeavored to avoid as far as possible the taking of drugs. It must be borne in mind, too, that he was living under the best hygienic conditions, and amid the best sanitary surroundings that could be obtained. For a soldier undergoing all the hardships and exposure of a vigorous campaign in that country, 6 or even 8 grains of quinin daily would probably be required to produce immunity. But every dictate of prudence and of wisdom demands that he should have this security against so pernicious a disease. The exigencies of the campaign may make it impracticable to institute the universal employment of mosquito-netting, but quinin can be readily served with the soldiers' rations. In the light, therefore, of what is now known upon this subject, every soldier who loses his life from this malignant disease will be recorded as a needless sacrifice at the hands of the medical arm of the service, and every combatant who returns with his constitution wrecked by tropical malaria will justly hold the same officers responsible.

Quinin is procurable at the present time in almost any quantity. There would seem to be no reason why there need be any delay in promptly carrying into execution this imperative demand.

ECHOES AND NEWS.

Medical Men in the French Parliament.—Among the members of the recently elected French Parliament are forty-seven medical men, five chemists, and one veterinary surgeon.

Dr. Wiggin's Appointment.—The Commissioners of Public Charities recently appointed Frederick Holme Wiggins, M.D., of New York city, assistant visiting surgeon to Bellevue Hospital.

Local Analgesia.—Hackenbruch, who recently read a paper on this subject before the Surgical Congress at Berlin, considers the term more correct than that of local anesthesia, which is generally employed.

Yellow Fever in Mississippi.—During the week ending July 2d only two cases of yellow fever developed in Mississippi and in these patients the source of contagion was easily traced. Their isolation has been perfect. Passed Assistant Surgeon Giddings maintains a small detention camp at McHenry.

Railway Hygiene in Austria.—The medical officers of the Austrian railways have requested the Government to have posted in each compartment a notice to the effect that spitting on the floor of the railway carriages is forbidden. The third-class carriages are washed at stated intervals with a five-per-cent. solution of carbolic acid.

Chicago Society of Internal Medicine.—A medical society with the above title has recently been organized in Chicago. It is announced that the chartered members will be limited to gentlemen of reputation in internal medicine, the future admissions to be approved by theses, the object being to lay the foundation for a society of the highest order of scientific excellence.

The X-Ray in Ophthalmic Practice.—The latest use to which the Röntgen-ray has been put is in ophthalmic practice, in which it has recently been employed in London to locate a piece of metal lodged in the ciliary region of the eye of a child. The skiagraph plainly showed the bit of metal, which was removed by an electromagnet after an incision had been made.

Protection of British Troops by Means of the Medical Supervision of Women.—A memorial signed by upward of 1000 mothers in various parts of the country has been forwarded by the Countess of Carlisle to Lord Salisbury, protesting against the principle involved in protecting the health of British troops by the system of medical supervision of women in the cantonments.

Foundlings in Moscow.—At the Imperial Foundling Home of Moscow, which receives annually more than 17,000 abandoned infants, the babies are dressed in swaddling clothes and their arms bound down to their sides during the time they are under the care of the wet-nurse. The latter sleeps on a straw mattress that lies upon the floor in front of the baby's crib, which is of metal.

Necessity Makes Queer Bedfellows.—One of the most distinguished medical men and scientists in the Russian Empire is about to visit England on an important mission. The extension of the Russian Empire in Asia has increased the necessity of taking measures for combating infectious diseases. Dr. Dembo has been instructed, therefore, by the imperial authorities to visit western Europe, and consult with British authorities as to the means adopted in their far-off possession for checking disease.

New Hot-water Bottles.—The expensiveness and want of durability in the ordinary rubber bottles and ice bags which have become so essential in the sick chamber, has long been a perplexing problem. Experiments with rice paper covered inside and out with a coating of Japanese lacquer led Professor Jacobsohn to recommend this material to the Berlin Society of Internal Medicine as far superior to rubber. In strength, flexibility, imperviousness, lightness, and durability it leaves little to be desired.

Hamlet a Neurasthenic.—According to Dr. T. W. Hime of Bradford, Eng., Hamlet was a victim of neurasthenia. In a communication presented to the Sheffield Literary and Philosophical Society, he says "Hamlet was a marvelously true representation of a person suffering from a

state of instability of the nervous system and of all the neurotic states dependent upon it. Hence he became a characteristic victim of neurasthenia, ready to burst out into vehement declarations of his irresistible determinations, but incapable of converting them into action."

Gratitude Galore.—According to the *Medical Press and Circular* the following death notice recently appeared in an English newspaper: "Smit.—On the 28th inst., Amy Jane Mary Smit, aged one day and two and one-half hours. The bereaved and heartbroken parents beg to tender their hearty thanks to Dr. Fealton for his unremitting attention during the illness of deceased, and for the moderate brevity of his bill; also, to Mrs. Williams for the loan of clean sheets, to Mrs. Jurgens for running to the doctor, and to Mr. Le Roux for recommending mustard plasters."

Plague in Hong Kong.—Two nursing sisters have died from the plague in Hong Kong. A plague patient in delirium coughed in the face of Miss Elizabeth Frances Higgin (Sister Frances) on April 20th; on the 25th she became ill, and was found suffering from bubonic plague, the worst form of the disease. She died on April 29th. The sister who attended her, Miss Emma Gertrude Ireland (Sister Gertrude), was admitted to the hospital May 2d. The next morning the typical bacilli were found; she died May 5th. Both these sisters served through the plague epidemic of 1894.

Honor to Whom Honor Is Due.—Under this caption the *British Medical Journal* points out the fact that Professor Koch in his recent address on malaria does not claim to be the discoverer of the facts narrated by him, *viz.*, that the cattle tick is the means of transmitting Texas fever from one creature to another, that Texas cattle fever is produced by a germ, and that the mosquito is a propagator of malaria. M. Lavaran is the discoverer of the malaria parasite and Dr. Manson distinctly indicated the *rôle* of the mosquito in malaria, while Surgeon-Major Ross demonstrated the presence of the malarial parasite in the tissues of the mosquito.

Sanitation as an Investment.—In the United States alone the loss through typhoid fever and other water-borne diseases is beyond ordinary comprehension. It is not far wrong to estimate the number of persons annually thus afflicted at 300,000, of whom 50,000 die. At the lowest legal valuation set upon human life the enormous total of $278,000,000 is found to be the equivalent cash loss. If by improvement of the water-supplies the death-rate could be reduced eighty-five per cent. $236,000,000 would remain for this purpose and this amount at five per cent. annually for interest and sinking-fund charges for forty years would justify an outlay of no less than $4,054,671,000 for water purification.

Typhoid Fever at Camp Alger.—A number of cases of typhoid fever have developed at Camp Alger and a commission has been appointed to examine the water-supply. That a question so important in the selection of a camp should have been deferred until after occupation seems almost incredible. Since a large quota of the victims were furnished by the New York Cavalry it is not impossible that the germs of the disease were acquired before the men reached Virginia. It is a notable fact, however, that in the instance of a Pennsylvania regiment whose officers had the forethought to order a sufficient supply of Poland water, the perfect health thereby maintained has more than repaid for the trouble and outlay.

Physiological Chemistry at Columbia University. — The College of Physicians and Surgeons, New York, is to have the advantage of an improved curriculum in this subject. The second-year men will receive a systematic drill therein, both by lectures and by practical work in the laboratory under most favorable auspices. Professor Russell H. Chittenden of the Sheffield Scientific School, who has won for Yale so high a standing in practical teaching and in research work in physiological chemistry, and for himself a commanding position as an instructor and investigator, is, without relinquishing his duties at New Haven, to direct the organization and conduct of the new department here, and to give weekly lectures. William J. Gies, Ph.D., has been appointed Instructor in Physiological Chemistry; Alfred N. Richards, A.B., and Henry E. McDermott, A.B., assistants.

Experimenting with Bacteria.—Transferring bacteria by subsurface has been made by several experiments in clearing the forests near the Rhine. Two pits were used as the tests. One pit was 3.3 feet deep, and in the ground the water rose to about 1 6 feet from the surface. The other pit was 24 feet distant in a line perpendicular to the direction of the flow of the subsurface water. This second pit was 4.9 feet deep, 3.3 feet wide, and 39 feet long. Two specimens of bacteria were selected, micrococcus prodigiosus and the fluorescent vibrio. These are not found in the Rhine. The cultures of these species were placed in the first pit, and at intervals of half an hour samples were taken from the second pit and cultivated in the usual way on gelatine or agar plates. It was discovered that in an hour the micrococci and in two hours the vibrios had passed through the 24 feet of gravel separating the pits.

Will Another Johns Hopkins Arise?—What is needed just now in London to promote the cause of post-graduate instruction is a liberally devised and munificently endowed hospital and college. There is a post-graduate system in that city, but it differs from our American models in that it lacks centralization; it is obliged, so to speak, to go "boarding 'round" at widely separated small special infirmaries. The *Lancet* announces the fact that a new departure has been brought to its notice, namely, "a scheme for the foundation of a Medical Graduates' College and Hospital on the American rather than the Continental plan—that is to say, a college and hospital where qualified men alone are to be taught. We recognize the difficulties which must attend any attempt to combine teaching for students with post-graduate instruction. Of course, a college and hospital for post-graduates alone would be a more desirable method for giving the special

instruction they desire, but in order to do this with efficiency provision must be made on a large scale. Lecture theaters, class-rooms, laboratories, a museum, and a library must have places in such a college, and such a hospital must attract by the wealth of its general and special clinical material and by the reputation of its teachers. Public consultations and advice to medical men on the diagnosis and treatment of their cases will require very careful management or they may possibly come to be regarded in a false light. It is hardly likely, therefore, that the scheme will receive much support from the teachers and governors of our general and principal special hospitals and in many instances an active opposition may be excited. The medical profession may subscribe liberally to the foundation and endowment of such an institution, but as the patients will not be admitted into the hospital for prolonged treatment, but rather for the purposes of teaching, it is questionable whether it will derive much support from the general public. If another Johns Hopkins can be found to provide the necessary funds the scheme will be carried out easily, but unless some munificent benefactor arises we are doubtful whether the project, which has much to recommend it, can be brought to a successful issue."

CORRESPONDENCE.

OUR FOREIGN LETTER.

[From Our Special Correspondent.]

KOCH'S OBSERVATIONS IN SOUTH AFRICA CONFIRM PROFESSOR SMITH'S DISCOVERIES IN CONNECTION WITH TEXAS FEVER—TROPICAL MALARIA—MALARIAL HEMATURIA AND QUININ POISONING—THE ROLE OF THE MOSQUITO—IMMUNIZATION AND SERUM-THERAPY.

BERLIN, June 25, 1898.

PROFESSOR KOCH has been the recipient of a series of most flattering attentions since his return from South Africa. He was met by a party of friends the evening of his arrival in Berlin, was given a banquet during the week, and on Thursday evening, on the invitation of the Deutsche Colonial Gesellshaft of Berlin, gave an account of his medical observations before an audience, assembled by invitation, that included many of the medical notabilities of Germany. Prince Arenberg, the president of the Colonial Society, presided.

Practically the whole of his talk was devoted to the subject of malaria. It had a special appropriateness to the occasion, since it is the existence of malaria in German East Africa that makes the work of colonization so difficult. The subject of Texas fever was also introduced because Koch has found it in East Africa, and it has in its etiology certain probable analogies with malaria which make it interesting. The Texas fever of East Africa Koch does not consider an importation from America. He has been able to ascertain by careful questioning of the older inhabitants that the disease in practically its present symptomatic form has existed there for generations. In fact, there is no tradition going back to its first appearance, so that it may be considered to have been endemic for 100 years at least. Koch took the occasion thus afforded him to repeat some of Professor Smith's experiments. He had not the time to repeat all of them, but was able to substantiate the extremely interesting observations as to the parasite of the disease, the intracellular pirosoma bigeminum, and its host a parasite of the tick family that infests cattle.

The communication of the disease by the ticks to the cattle was the subject of special study, particularly the hereditary form of the disease in the ticks, or at least the possibility for insects of this kind that had never been on animals affected with the fever, nevertheless communicating the disease to cattle. Koch raised several generations of ticks, and then having carried the young to a part of the country where Texas fever was unknown, placed them on healthy animals. Twenty-two days elapsed before any symptoms were noted, and he had about given up hope of any result from his experiments, when the report reached him. He expressed hearty appreciation of the acute scientific observation and patient investigation of the American pathologist, and his words were welcomed with marked signs of approval.

Malaria in its tropical forms occupied the rest of the evening. He has found that only about ten per cent. of the malaria that occurs in the tropics is at all like ordinary malaria. The quotidian and tertian forms do occur in about the proportion mentioned, but besides these there are two other forms distinctly tropical. At the height of the paroxysm in tropical fever, there is a persistence of the highest febrile temperature for some thirty-six hours in marked distinction to the almost immediate fall of the temperature after it has reached its acme, as is always seen in America and Europe. The parasite of the tropical forms is very similar to that of tertain fever, but the plasmodium is smaller in the various stages. The so-called spore forms, which are really fully-formed, minute plasmodia, set free after the breaking up of the rosette forms, are not more than one-third the size of the hematozoic sporulation (?) forms of Italian observers. Partly, perhaps, because of their extremely small size, Koch has never seen them in the blood, but has seen them in the spleen.

The constancy with which certain forms of the parasite occur at certain stages of the disease is remarkable. An examination of a blood specimen, though the patient had never been seen, enabled one to say positively in what stage of the disease he was when the blood was withdrawn. There is especially noticeable a small signet-ring form of tertian fever, and having even more distinctly the crescentic enlargement of the ring opposite the signet. In the tropics this is not more than one-half as large as the tertian signet-ring form, and is always found just after the paroxysm is over.

When quinin is given while the parasite is young and delicate, during what used to be called sporulation, though falsely, the plasmodium being less, not more resistant to external influences at this time, it is not hard to break the disease up. Entirely too much quinin is given in the tropics, however, and without due regard to its specific action, which is not any theoretic antiperiodicity, but is

its fatal effect on the plasmodium. One gram (15½ grains) is enough for prophylaxis, and scarcely more is needed to avert a paroxysm during the course of the disease if it is given while the parasites are especially irresistent to its action.

Koch thinks that the *Schwarzwasser fieber* (the black water fever), that is so much dreaded in the topics, the malarial hematuria of the books is really not due to malaria at all, but is a symptom of quinin intoxication. He has never seen it in cases where quinin had not been used, and as an idiosyncrasy for quinin often exists, it is possible for severe toxic symptoms to occur without much of the drug having been taken. Koch has not seen in his tropical experience the remittent form of malaria, and thinks that when there is a febrile temperature between the regular paroxysms of the disease that it is due to some complication.

As to the conveyance of the disease, air and water as media of the contagion being absolutely excluded, Koch thinks that the disease is spread by mosquitos. It exists only where mosquitos are present. Though very common in the islands along the African coast, there is one of the islands off the German East African coast that is free from it, and mosquitoes are not found on the island. Koch found mosquito nets afforded effectual protection against the disease when wandering over infected belts of territory. The analogies for such a means of contagion are by no means wanting. The filaria sanguinis hominis has the mosquito for an intermediate host, without a doubt. The cachexia, fatal in most animals, and often extremely severe in human beings, that follows the bite of the Tsetze fly, is probably due to the inoculation of some organic infectious material capable of reproduction in the organism, rather than to the injection of simple toxic substances. The study of Texas fever is especially interesting in this regard, as showing the possibility of the power of infection being transmitted from generation to generation in the host. It is possible that the cycle of evolution of the malarial parasite in the mosquito may require several generations for its completion. A direct inoculation from person to person by the mosquito seems improbable. As to the therapy of the disease, quinin is effective, yet malaria has always remained the great enemy of colonization projects in tropical countries. The methods usually suggested for ridding a country of malaria are impracticable or ineffectual. The draining of the swamps would be an immense labor and involve huge expense. The planting of eucalyptus trees is humbug. A method of immunization to the disease would open up the tropics to European civilization.

That such a thing is possible Koch firmly believes. Malaria even untreated is in any single attack a self-limited disease, and successive attacks are milder and milder. The negroes on the African coast have an acquired immunity, and have only rare, and then slight, attacks of the fever. Those who live on the mountains inland know that when they go down to the coast they will almost inevitably acquire the fever, but that the risk is less on successive expeditions and the fever ever lighter.

Even our present imperfect knowledge of the parasite may be sufficient to enable us to find a method of immunization. Koch had not been able to demonstrate the parasitic cause of rinderpest, but a practical procedure to secure immunity he thinks he has found. Of rabies almost nothing is known as to its etiology, yet a successful biologic therapeutic method for its treatment has been discovered. The aim of future studies will be in this line, for the object aimed at is one of the most humane, and at the same time utilitarian at present open to scientific study, for the opening up of the tropics will follow the discovery.

The scientific and commercial value of successful investigation here would be far beyond anything that Polar exploration (a German North Polar expedition has just sailed) can promise. Government and colonial interest in the matter must be aroused, and every incentive offered to the pursuance of successful investigation in this line.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

AN INCREASE IN GASTRO-INTESTINAL DISORDERS—THE CITY'S POOR—SUMMER CLINICS AND LABORATORY COURSES—A NEW DIPLOMA MILL?—WATER FAMINE IN GERMANTOWN—THE DRUG-STORE PHYSICIAN—A CHURCH CELLAR AS A BURIAL-GROUND.

PHILADELPHIA, July 6, 1898.

WITH the advent of the intensely hot weather of the past few days and the excessive humidity which accompanied the heat, the dispensaries have been crowded and the number of children suffering from gastro-intestinal disorders has been unprecedented. Heat prostrations, too, have been numerous enough to crowd the facilities of the hospitals and at the German and Pennsylvania Hospitals it is proposed to erect tents for the treatment of this class of patients. Playgrounds have been arranged in various parts of the city, and these, with the numerous small parks which have been made during the past year, it is hoped will mitigate the suffering caused by such intolerable weather. Philadelphia is to be commended for the many improvements which have lately been made in this respect, and together with the improvements soon to be made, in the establishment of more free baths, the condition of the poor in this city will be greatly ameliorated.

While many of the regular clinics are closed, perhaps better facilities for clinical study exist now than are afforded during the winter, for in the absence of many of the older men and in the less crowded clinics there is a chance for every man to do original work and to study cases individually. This is true, also, of the many laboratory courses held by the colleges during the spring and summer, and it is becoming recognized that the student unhampered by other studies and the thought of impending examinations accomplishes more work, and work which is more valuable than the regular instruction of the college term.

With the classes which graduated this spring the reign of the three-year course of instruction ends in this city. The three-year classes graduated by the Medico-Chirurgical and the Women's Medical College are the last, both colleges having adopted a four-year course some time ago,

which had been done by the Medical Department of the University of Pennsylvania and Jefferson Medical College.

After the graduation examinations this spring a student from one of the medical schools who had failed to receive his diploma went to the Baltimore Medical College; after his arrival he wrote to his companions in misery that upon payment of a small fee they could secure diplomas July 1st. Upon receipt of this news a number of students left the city for Baltimore, and at last accounts expect confidently to secure the much-coveted degree. It now remains to be seen what action will be taken by the Pennsylvania State Board of Medical Examiners when these made-to-order physicians apply for a license to practise, a physician of Connecticut, who is conversant with the facts, having stated that they need not apply for registration in his State, as they will meet with a decided refusal.

Possibly the "war scare" may have kept more than the usual number of Philadephians in town, but whatever the cause, there is no doubt as to the number of physicians remaining in the city, whether from a desire to care for these patients or from inability to go away for other reasons. Among those who have gone to Bar Harbor are Drs. Henry C. Chapman and J. Madison Taylor, while Dr. Joseph Leidy is again at Narragansett Pier. Dr. L. Webster Fox is at Spring Lake, N. J., and Dr. Edward P. Davis at Marion, Mass.

Dr. M. O'Hara, Jr., has received an appointment as assistant surgeon to the 20th Regiment of this State.

Dr. Henry Beates has gone to the Delaware Water Gap for a short stay pending the report of the State Medical Examining Board, of which he is a member.

There is a water famine in Germantown which threatens to cause serious trouble. Complaints have been made that the residents of Chestnut Hill and Germantown are unable to get an adequate supply, and in some sections there is absolutely no water except in the early morning. The reservoir at this point is almost empty and the pumps are not sufficient to keep up with the demand, let alone fill the reservoir. It is particularly unfortunate at this time of the year, and only serves to again illustrate the absolute imbecility of the municipality which the people by popular vote empowered to create a large loan for the betterment of the public service in this as in other respects.

Dr. M. F. Middleton has been elected President of the Camden Board of Health. The reports for this year show 615 cases of contagious diseases against 466 for the year before. The last three weeks show an increase of fifty per cent. in the number of cases of typhoid fever.

The Philadelphia County Medical Society is in danger of having no report of its transactions for the past year. When the *Medical and Surgical Reporter* failed last winter the Society had placed these records in the hands of a printer; but as the County Medical Society owed the *Reporter* a small sum of money and the *Reporter* owed the printer a large sum, the latter demands payment of the large sum by the Society as compensation for the reports. The amount has not been paid, and so matters rest for the present.

An interesting question of medical ethics has just arisen in one of the hospitals of this city. A Resident of last year having opened a drug-store in connection with his practice, some of the attending physicians have refused to sign his diploma of residency, while one is urging his confrères to sign, much to the bewilderment of all who know of the affair.

The sexton of Mt. Zion Christian Church has been arrested charged with violating the regulations of the Board of Health. Charles Kennedy, an inspector, testified to finding bodies of children buried in the church cellar but eighteen inches under ground, while one, that of a child who had recently died of diphtheria, was buried at a depth of but two feet. As the law requires that all bodies shall be buried at a minimum depth of eight feet, and this seems little enough, comment is unnecessary.

RUPTURE OF THE BICEPS TENDON.

To the Editor of the MEDICAL NEWS.

DEAR SIR: The following case is, I think, somewhat unusual. Mr. J. W. K., aged seventy-five years fat and of gouty habit, while attempting to throw a stone, fell laterally and struck on his right shoulder. He immediately experienced sharp pain in the shoulder and was unable to raise the arm. When I saw him I made a diagnosis of rupture of the tendon of the biceps muscle at the point of its insertion in the bicipital groove of the humerus. There was more or less settling of the muscle toward the elbow, it failed to contract on flexing the arm, and at the point of rupture there was marked tenderness. The accident occurred during the latter part of August, 1897. The muscle is now very soft and flabby and its contour differs very materially from that of the right arm, although the patient is right-handed. Treatment has failed to improve the condition. Very truly yours,

J. T. BUCHANAN, M.D.

BENHUR, LIMESTONE CO., TEXAS, July 1, 1898.

TEST FOR IMPEY'S THEORY AS TO THE IMMUNITY IN ANESTHETIC LEPERS OF ALL TISSUES EXCEPT NERVOUS.

To the Editor of the MEDICAL NEWS.

DEAR SIR: I recently proposed to Dr. Alvarez, Superintendent of the Leper Hospital, Honolulu, the following experiments which he promised to try:

1. That serum of a blister on an anesthetic leper be inoculated on a tubercular leper to see if any regression of tuberculation results. If there is immunity of all tissues except nervous, I should expect such regression.

2. Take serum from a tubercular leper and inoculate an anesthetic leper. If tuberculation results there is no Impey immunity.

3. Take the serum from an anesthetic leper whose disease has run out and find if it is a remedy for leprosy. It should be if Carrasquilla's theory is right, although the horse has not been subject to the disease for more than a few days and the anesthetic leper has been subject to the disease for several years. But it must be borne in mind that the horse is refractory and the anesthetic leper not.

Yours truly,

ALBERT S. ASHMEAD, M.D.

NEW YORK, July 5, 1898.

SOCIETY PROCEEDINGS.

TWENTY-THIRD ANNUAL MEETING OF THE AMERICAN GYNECOLOGICAL SOCIETY.

Held at Boston, Mass., May 24, 25, and 26, 1898.

FIRST DAY—MAY 24TH.

THE President, DR. PAUL F. MUNDÉ of New York, in the Chair.

DR. A. C. SINCLAIR of Boston delivered the address of welcome, and was followed by Dr. Edwin B. Craigin of New York, who read a paper, entitled

CONGENITAL PELVIC KIDNEYS OBSTRUCTING THE PARTURIENT CANAL, WITH REPORT OF A CASE OF VAGINAL NEPHRECTOMY.

He did not consider the subject of floating kidney, but only kidneys congenitally located wholly or in part within the cavity of the pelvis. Of forty cases reported, thirty-five were on the left side. Of twenty cases studied by Roberts, six were on the left side. Of fifteen which the writer found reported since 1869, fourteen were left kidneys. The kidney on the opposite side is usually present and in its normal position. In one case studied there was but one kidney. The arterial supply generally arises from the common iliac or sometimes from the aorta just above its bifurcation. Malformation of the genitals is sometimes present. Only five cases of distocia arising from this condition have been reported, and to these Dr. Craigin added a sixth. Mrs. M. was seen May 8, 1897. She was twenty-five years old, a native of Cuba, and had had two pregnancies, with difficult deliveries. She was then pregnant 8½ months. Behind the cervix was an elastic tumor, which reduced the internal conjugate to 7 cm. External measurements were normal. It seemed impossible for a child to be born per vaginam except after removal of the tumor. After incision of the vaginal wall the tumor was tapped and found to be a distended left kidney, fixed beneath the promontory of the sacrum. Vaginal nephrectomy was performed by first clamping the vessels and ureter at the hilus, removing the kidney close to the clamps, and then replacing the clamps by ligatures. A narrow strip of gauze was carried up through the wound and pressed against the pedicle. A few intermittent uterine contractions occurred during the afternoon, and at 2 o'clock the next morning true labor began. Seventeen hours after the operation a well-formed female child was delivered with ease. The mother made a good recovery and the development of the child was satisfactory. From the previous history and the easy labor after the operation there is little doubt that the kidney was the cause of previous distocia. The writer was unable to find reported another case of vaginal nephrectomy.

DR. A. LAPTHORN SMITH of Montreal then read a paper on

CASES OF PREGNANCY FOLLOWING VENTROFIXATION; IMPROVEMENTS IN THE TECHNIC OF THE OPERATION.

His conclusions, based upon about 2500 cases reported by forty-one operators, including 111 cases of his own, were as follows: (1) As far as curing retrodisplacements is concerned, whether retroflexion, retroversion, or anteflexion with retroversion, and also prolapse of the uterus, ventrofixation, with two buried silk stitches passing through the peritoneum and fascia, gives the most reliable results. (2) Ventrofixation should be reserved for cases in which abdominal section is necessary for other reasons, such as the breaking up of adhesions and the removal of the diseased tubes which caused the adhesions. When it is expected that pregnancy may follow some other operation may be chosen because (3) although pregnancy only followed in 148 cases out of about 2500, in thirty per cent. of these, or 36, there was pain, miscarriage, or difficult labor requiring obstetric operations. (4) When suspensio uteri was performed, that is the uterus attached to the peritoneum, only a few relapses occurred; but, on the other hand, the patients were free from pain during pregnancy and the labors were less tedious; neither did they require resort to serious obstetric operations. The uterus should therefore be suspended rather than fixed to the abdominal wall in all cases in which any part of the ovary is allowed to remain. (5) A third method, it is claimed by some, namely, the intra-abdominal shortening of the round ligaments, is preferable to either ventrofixation or suspension. This may be done either by drawing a loop of the round ligaments into the loop which ties off the ovary and tube, or in cases in which the latter are not removed, simply detaching them from adhesions and shortening the round ligaments by drawing up a loop and stitching it to itself for a space of about two inches. By this means the round ligament develops as pregnancy advances, and the dragging and pain, and other more serious accidents which are present in thirty per cent. of the cases of ventrofixation, are certainly avoided. (6) If the uterus is attached to the abdominal wall, the stitches should be inserted on the anterior surface but near the fundus. Complications have been more frequent when there has been too much anteversion. (7) As large a surface as possible should be made to adhere, by scarifying both the anterior surface of the fundus and the corresponding surface of the abdominal peritoneum, in which case one buried silk suture will be sufficient to keep the uterus in good position. (8) Several have reported incidentally that they knew of many cases of pregnancy after Alexander's operation, and that in no case was the pregnancy or labor unfavorably influenced by it. Alexander's operation should therefore be preferred whenever the uterus and appendages are free from adhesions. (9) The results of Alexander's operation are so good that even when there are adhesions, it might be well to adopt the procedure of freeing the adhesions by a very small median incision and then shortening the round ligaments by Alexander's method, after which the abdomen should be closed. This could be done without adding more than one-half of one per cent. to the mortality, which in Alexander's operation is *nil.*

DR. W. R. PRYOR of New York read a paper, entitled

THE TREATMENT THROUGH THE POSTERIOR VAGINAL CUL-DE-SAC OF ADHERENT UTERI.

He said that there is much information desired regarding the manner in which adhesions are produced. Certain patients give no history of labor, abortion, gonorrhea, or unclean intra-uterine manipulations, yet retroversion and fixation are apparent. In such cases little or no disease of the ovaries is found. It is most often seen in robust servant-girls. The period at which the displacement and adhesion occurs between the uterosacral and rectal structures and the uterus is unknown. Retroflexion and retroversion are equally marked. These cases are rare, the writer having seen but five. He classes them as congenital and incurable by any known operation. As we commonly meet with adherent retropositions, they can generally be traced to abortion or labor followed by sepsis, and some to gonorrhea. When gonorrhea is the cause, the tubes are most damaged, and the adhesion is of the least degree. In patients recently pregnant, the adhesions are most pronounced. In all cases adnexal disease is more extensive than is revealed by digital examination.

In all operations for the correction of these displacements, the first step is to free the uterus, then to treat the tubal and ovarian disease, and finally to endeavor to retain the replaced uterus in the normal position. An anterior or posterior fixation of the uterus will prevent its ascending during pregnancy. Any operation which will interfere with a future pregnancy should be condemned. The operation through the belly is more free from bad influence over subsequent pregnancies. The question of the position of the uterus is not alone to be considered. The only objection which can be made to hysterorrhaphy is that in some cases the removal of the ovaries and tubes is necessary, which would not be if treated by another route. Where there is fluid, the result of inflammation, if infected, its escape is necessary. This infection is especially likely in case of occluded tubes. Hemostatic sutures are unfortunate because they strangulate the tissues, limit repair, and lock in discharges. The speaker enters the pelvis through the posterior cul-de-sac. With this incision properly made, and the patient in a certain posture, the operator can see as much as through an abdominal incision. He can incise the diseased tissues as much as necessary and leave them oozing, suturing only when large portions of the ovary are removed, or when small vessels have been opened. This operation enables one to apply conservatism in a class of cases, and in a manner which one dares not attempt by any other operation.

The speaker had operated fifty-one times through the posterior cul-de-sac. All these patients were well after three months, and the uterus in good position, with one exception. The operation is as follows: After thorough preparation of the vagina, the uterus is curetted. Selecting the fold behind the cervix which marks the reflection of the vagina, he enters the cul-de-sac of Douglas, and makes a careful digital exploration. He then introduces a retractor and lifts the uterus into the abdomen and introduces several gauze-pads into the pelvis. Then the patient is thrown into an exaggerated Trendelenberg position, and one may see and treat the adnexa as desired. He excludes all cases showing pus. After the completion of the operation, the pelvis is wiped dry and several folds of iodoform gauze are introduced into the incision. These and the uterus are replaced *en masse*. The uterus is kept in position by gauze lightly packed in the vagina above the levator ani muscle, and this is held in place by a stout roll placed transversely. A self-retaining catheter is inserted into the bladder, and the sphincter ani dilated. From seven to ten days later the patient is placed in the Sims position, and the dressings removed and renewed under chloroform anesthesia. The patient is out of bed in 2½ weeks, and vaginal support is maintained for six weeks. The operation succeeds perfectly, several patients having become pregnant. Two have been successfully confined. The speaker seeks by this operation to sever adhesions and to obliterate the cul-de-sac and form a mass of lymph between the cervix, uterosacral structures, and the rectum. The resulting scar holds the cervix upward, and the body of the uterus is thrown forward by the intra-abdominal pressure. All replacement operations which succeed obey one of two rules: either the corpus uteri is fastened high and forward, or the cervix high and backward. The first fixes the body of the uterus, while the author's operation leaves it free. The uterus is limited in mobility in one direction—the downward movement of the cervix. The after-treatment is troublesome, and must be faithfully carried out.

The discussion which followed the reading of Dr. Pryor's paper was general, and fully brought out the views of those present on the subject of fixation of the uterus. Dr. Kelly said that the operation so highly commended by the essayist is a perfectly rational one from a mechanical standpoint, but presents certain difficulties in its practical employment. Personally, he prefers the operation of hysterorrhaphy. He has performed this operation 410 times since 1889, and with most satisfactory results in each instance. Eighteen or twenty of the patients had become pregnant afterward, and with one exception, nothing unusual had marked the gestation. He does not care for Alexander's operation. The round ligaments are not designed to hold the uterus forward except during pregnancy.

DR. A. PALMER DUDLEY of New York said that he has determined never to perform ventrofixation again unless positively necessary. He has never made use of buried sutures in these cases but in one or two instances, and then he was compelled to remove them. There is always less reflex trouble if pregnancy follows an Alexander operation rather then ventrofixation, but there is danger of the occurrence of hernia. He objected to the production of scar tissue in the floor of Douglas' cul-de-sac, as in Pryor's operation, as scar tissue is always tender, and in this locality may give rise to pain or reflex disturbances.

DR. CHARLES P. NOBLE of Philadelphia said that, in his opinion, ventrofixation should be abandoned; that suspension of the uterus gives the best results.

DR. HERMAN J. BOLDT of New York said it is impossible to arrive at a satisfactory conclusion as to which is the best operation, as the opinion of each operator depends upon his personal experience. In cases of posterior displacement with firm adhesions he approves of

opening the abdomen and performing ventrofixation. He is inclined to think that Alexander's operation gives less dissatisfaction and less trouble than any other method, provided, always, that the cases are carefully selected.

DR. MATTHEW D. MANN of Buffalo said that he prefers Alexander's operation. If adhesions are present, it is desirable and proper to open the posterior cul-de-sac, break them up with the finger, and then carry out Alexander's technic. If there is extensive disease of the tubes and ovaries, the abdomen should be opened and the organs removed, the operator then having an opportunity to cure the displacement, either by shortening the round ligaments or by performing ventrofixation. It is a mistake to employ non-absorbable ligatures in the operation of ventrofixation. Under such circumstances chromicised catgut ligatures alone should be used.

DR. GORDON said his experience with Alexander's operation has been limited, but very unfavorable.

DR. H. T. HANKS of New York said that the many reflex disturbances which occur after ventral suspension and fixation are due to the fact that the uterus is fixed too firmly in the median line.

DR. E. C. DUDLEY of Chicago said that in those cases in which the uterus is replaceable the indication for Alexander's operation must be very limited. There is no normal position for the uterus. It is practically a question of normal movement of the uterus. If the organ is permanently fixed it makes no difference where it is; it is not normally placed. For that reason the operation of permanent fixation should be condemned.

DR. HUNTER ROBB of Cleveland said that many patients are operated upon unnecessarily. Many get well without any operation whatever. Where diseased tubes and ovaries are present and at the same time a retroflexed uterus, the removal of the tubes and ovaries, and separation of the adherent uterus will do all that is necessary in many cases.

DR. JAMES R. CHADWICK of Boston said that he prefers Alexander's operation whenever it is suitable. He had performed it more than two hundred times and had never seen hernia occur in a single instance.

DR. A. F. CURRIER of New York said that the operation which preserves normal anatomical conditions should be the method of choice. There is probably no operation, however perfectly designed, that will not meet with a certain number of accidents. One objection raised to the Alexander operation is that there are two wounds instead of one. By a short median incision, shortening the round ligaments from the inside, whether by the method of Dr. Wylie or the modification of Dr. Mann, better results will be obtained than by any other method.

DR. J. RIDDLE GOFFE of New York said that he had been waiting for some one to suggest an operation by which it would be possible to obtain support at the proper point, *viz.*, the uterosacral ligament. Next to the uterosacral ligament the proper ligament to utilize is the round ligament, and recognizing all the objections that have been made to Alexander's operation, and also to laparotomy, he has been shortening the round ligaments through the anterior vaginal fornix, with satisfaction to himself and success so far as his patients are concerned. The method consists in incising the vagina along the anterior wall throughout its whole length and dissecting the vagina from the bladder. From this longitudinal incision he makes a transverse incision at the cervix, passes his fingers over the top of the uterus and is able to break up adhesions. The round ligament is caught up on each side about one and one-half inches from the fundus, doubled upon itself, and drawn down, in which position two or three catgut sutures are inserted, the angle of the loop then being stitched to the uterus. This will shorten the round ligament two or three inches. By operating first on one side and then on the other the uterus can be retained in a normal position. He has performed this operation in every case of retroversion either with or without adhesions.

DR. ALEXANDER J. C. SKENE of Brooklyn said that he has tried all the operations mentioned and found that with one or two exceptions there is room for all of them. We are not in a position to decide positively which is the best. Not a word had been said about the suffering produced by scar tissue in the vagina. More trouble follows the presence of scar tissue in this locality than from abdominal section. Another objection to Alexander's operation is that many times the round ligament is absent, either congenitally absent or completely atrophied. He has specimens in which he has been able to demonstrate that there was not a particle of muscular tissue in the round ligament, and he knew that many of the Alexander operations are failures on account of defects in the ligament.

DR. BOVEE said that there are other factors besides the uterosacral ligaments and round ligaments that act as causes and as anatomic reasons for treatment of the retroverted uterus. A too short anterior vaginal wall will do as much harm in the way of producing retroversion of the uterus as relaxed broad or uterosacral ligaments.

DR. A. LAPTHORN SMITH said that the Alexander operation could be performed without ever causing hernia. He had never seen a case of abdominal section in which the round ligaments were absent altogether. He thought that Dr. Goffe's operation has a great future before it; if he can shorten the ligaments without leaving a scar on the abdomen it is certainly a great step in advance.

DR. PRYOR, in closing, said he had not intended to precipitate a discussion on Alexander's operation. In speaking of hernia he had eliminated his own cases; he thought the fault was not in the operator but due to some change in the dynamics of the pelvis. A woman's vocation will have something to do with it. The fact that Dr. Smith does not see hernia may be because he is not connected with a dispensary. Any man who has a dispensary practice will see herniæ, sometimes as large as a cocoanut. He knew of no better way to hold the uterus in position until the lymph is converted into a scar than by employing the vaginal dressing. The lymph is not inflammatory lymph, and the scars due to it cannot be seen after six months. There is no lymph found when the abdomen is opened later. This method does not cure all patients; there is a limit to it. The operation is not in-

tended to take the place of Dr. Kelly's operation; it is only to be used in adherent cases.

At the beginning of the afternoon session the topic

HAS ELECTRICITY CEASED TO BE A USEFUL THERAPEUTIC AGENT IN GYNECOLOGY?

was presented for discussion.

The subject was presented by DR. HENRY J. GARRIGUES of New York, whose paper was published in the MEDICAL NEWS for June 11th, with that of DR. EGBERT H. GRANDIN of New York.

These papers were discussed by Drs. Engelmann of Boston, Boldt, Dudley, and King of New York, Sutton of Pittsburg, and Smith of Montreal, all, with the exception of the last named, condemning the use of electricity in gynecologic practice, as in a majority of cases it not only fails to benefit the patient but does actual harm. Dr. Smith said that every year he cured two or three patients with electricity and sometimes many more. He knew about sixty living women who had been cured of fibroid tumors. In every case of fibroid he has tried to persuade the patient to submit to an operation, but when she would not consent, he has begun the electric treatment, and in many cases has cured her. In these sixty cases he used the galvanic current, and usually 125 to 150 milliamperes. The average number of sittings was thirty-five or forty. He had had ten absolute failures.

DR. HERMAN J. BOLDT of New York then read a paper, entitled

THE PORRO OPERATION, OR COMPLETE EXTIRPATION OF THE UTERUS?

After citing cases and describing the technic of the different operations he came to the following conclusion: In all cases of absolute indication for Cæsarian section the complete extirpation of the uterus should be preferred. The question arises: What would be considered an absolute indication for removal of the uterus?

1. All women who have a living child in utero at term or nearly so, and in whom the pelvic diameters are too small for the delivery of a living child *per vias naturales*.

2. When the child in utero is dead and infection of the organ has taken place.

3. In cicatricial atresia of the vagina to such an extent as to prevent delivery through the normal route.

4. When a neoplasm is present in the column of the uterus preventing the passage of a living child with safety to the mother.

5. In such cases of rupture of the uterus in which an abdominal section is indicated and suture of the uterine wound is unsafe.

6. In some cases of hemorrhage from the uterus subsequent to Cæsarian section, as in a case reported in which the operator had completed the uterine suture and although no blood oozed from the stitch-holes the hemorrhage from the vagina was so terrific that he found it necessary to change the ordinary Cæsarian section to the Porro operation.

In summing up the author came to the following conclusions:

1. Total hysterectomy should be performed in preference to a supravaginal hysterectomy, with extraperitoneal treatment of the pedicle.

2. The operation should never be performed unless absolute indications are present.

3. The uterus can be rapidly removed by applying clamps on each side: the difference in time consumed between a Porro operation and total hysterectomy is not more than half a minute. The elastic ligature is dispensed with and the proper attachment of the cervix in the lower angle of the wound nearly equals the time consumed in ligating the vessels and suturing the peritoneum after the removal of the uterus. When the child is dead in utero the organ should not be opened for the purpose of first delivering it, but the uterus should be removed *in toto* unopened.

The advantages of total extirpation over Porro's operation are: (1) Less danger of infection. (2) Practically no danger from secondary hemorrhage. (3) Less danger of intestinal obstruction. (4) A shorter period of convalescence. (5) Less danger of ventral hernia. There are practically no disadvantages.

DR. EDWARD P. DAVIS of Philadelphia said that in Porro's operation we have the best, quickest, and safest method of operating. He warned against opening the uterus if the child is dead; he had had the misfortune to make this mistake once, and thought that the sepsis which caused death was due to it. He had found it an advantage to apply the clamp as close to the ovary as possible and then to ligate and cut; four to six ligatures are necessary. When operating on the pregnant uterus one should bear in mind the presence of the artery which accompanies the round ligament, and that it is large enough to require ligation. He emphasized the point that one cannot decide upon a given delivery by the pelvic diameters. He had had four cases of contracted pelvis, in each of which the past history demanded Cæsarian section, One had been delivered by axis traction, and another had been delivered spontaneously at her own home. There is danger of wounding the ureter in operating through the lower uterine segment, but by keeping close to the cervix it will not be great. If a stump is left the relations in the vagina are less disturbed than if the removal is total.

SECOND DAY—MAY 25TH.

DR. HENRY J. GARRIGUES read a paper, entitled

OBSERVATIONS IN REGARD TO GENERAL ANESTHESIA, ESPECIALLY BY THE SCHLEICH MIXTURES,

which will appear in a future issue of the MEDICAL NEWS.

Following the discussion of Dr. Garrigues' paper DR. MATTHEW D. MANN of Buffalo read one, entitled

THE SURGICAL TREATMENT OF IRREDUCIBLE RETROFLEXION OF THE GRAVID UTERUS.

The alternatives in these cases are either to replace the uterus, or that being impossible, to empty it, the argument being that if the uterus is left displaced the death of the mother and child will result, whereas, if the uterus is emptied the mother may be saved, but the child will be

lost. This teaching should be changed, and if it be found impossible by the most improved methods, including the use of anesthesia, to replace the uterus, the abdomen should be opened and the fundus pulled up by the hand introduced behind it. If the uterus completely fills the pelvis efforts at replacement through the vagina will fail, because when it is pushed up nothing can enter from above to take its place and the moment pressure is withdrawn from below atmospheric pressure forces it down again into its old position. Even if the uterus be soft and yielding it requires considerable manipulation to get it up, and this can only be done by letting the air in behind it. Pregnancy may exist when there are adhesions and these may be an insuperable bar to retroposition until they are broken up by the hand on the inside, thus giving another indication for operation.

DR. J. WHITRIDGE WILLIAMS of Baltimore read a paper, entitled

BACTERIA OF THE VAGINA AND THEIR PRACTICAL SIGNIFICANCE, BASED UPON THE EXAMINATION OF THE VAGINAL SECRETION OF ONE HUNDRED PREGNANT WOMEN.

He said that the first work in bacteriology of the vagina was done in 1887 by Connor, who examined thirty-one cases and stated that the vagina did not contain organisms capable of causing septicemia. Since then there have been one or two articles published each year on both sides of the question and by equally competent observers. His own work was based upon ninety-two cases and in these he did not find a single streptococcus or staphylococcus aureus. He found in several cases a white skin-coccus and in a number the gonococcus.

The difference in results obtained by different men is altogether a difference in the technic; all who obtained positive results introduced specula into the vagina, and so carried in past the hymen whatever organisms were at the entrance of the canal. The author's method is to spread the hymen widely apart with the fingers so as not to come into contact with the external organs of generation, in that way avoiding introducing organisms from without. The conclusions arrived at were: (1) That the vaginal secretion does not contain the streptococcus or staphylococcus aureus. Therefore the use of vaginal douches is unnecessary, and, in many cases, injurious. (2) The whole matter is one of technic. (3) The vagina does not contain pathogenic organisms. (4) It is possible that in rare instances the vagina may contain bacteria. (5) Death from puerperal infection is from infection from without and is due to a lack of antiseptic precaution on the part of the physician or midwife.

The President's address, by DR. PAUL F. MUNDÉ of New York, which followed the discussion of Dr. Williams' paper, was then delivered. He took for his subject

PUERPERAL SEPSIS.

Among other things he said that the first step in the treatment should be the freeing of the uterus from foreign substances, which may be done with the finger or the blunt curette which was introduced by the author. The cavity may then be irrigated with a mild solution of permanganate of potash. He very seldom employs bichlorid of mercury, and never stronger than one in ten thousand. Iodoform pencils do no particular good, and mask the odor and character of the discharge. The endometrium may be packed with iodoform gauze when it is desired to bring about contraction and reduction in the size of the uterus. The curetting of a septic endometrium removes tissues which have already undergone inflammatory obliteration of their absorbent vessels, and so does more harm than good by laying open fresh channels for infection. It is better to apply to such an endometrium a strong solution of chlorid of zinc, tincture of iodin, or iodized phenol, and then to wash away the loose débris with sterilized water and to pack the cavity with iodoform gauze, which should be removed within forty-eight hours unless the symptoms call for its earlier removal. When the uterine cavity is entirely empty, even though there be general sepsis, there is no use in giving intrauterine irrigations. When pelvic cellulitis, peritonitis, or salpingitis is detected, attention should be directed toward the local condition.

The medicinal treatment, unfortunately, is not satisfactory. If the patient can be kept alive by means of stimulants and nourishing food until Nature has thrown off the septic germs she probably will recover. If her stomach gives out and nourishment and stimulants are not retained, the disease wins. The objection to the coal-tar derivatives is that they mask the fever and depress the heart. The speaker does not hesitate, when the heart condition warrants it, to give phenacetin in 3 to 5-grain doses combined with caffein. A few hypodermics of ergot may be useful to keep up steady contraction of the uterus.

In conclusion, he spoke of the recently introduced treatment of septic infection by means of antistreptococcic serum. His experience was limited to three cases, all of which seemed desperate. From 3 to 6 hypodermics of 10 cubic centimeters of serum were injected at intervals of from four to twelve hours, and all three patients recovered.

DR. E. W. CUSHING of Boston then read a paper, entitled

THE INDICATIONS FOR PARTIAL AND TOTAL HYSTERECTOMY *via* ABDOMINAL AND VAGINAL ROUTES.

The following methods were considered: (1) Suprapubic amputation, extraperitoneal or intraperitoneal, where the cervix is cauterized and drained. (2) Total extirpation by the abdominal route, where the vagina may be left open, the peritoneum being open or closed. (3) Total extirpation by way of the vagina, either with the clamps, morcellation, or ligatures.

The extraperitoneal treatment of the stump has been abandoned by all except in exceptional cases. It may be employed when in an emergency it is necessary to terminate the operation immediately, as from shock from previous hemorrhage, in rupture of the pregnant uterus, for instance. The method of treating the stump intraperitoneally has been abandoned by the author because, when there is reason to fear infection from the cervical

canal, it is better to remove the entire cervix. As the healthy cervical canal is not septic, cauterization is not necessary if the entire uterine cavity has been properly cleansed and disinfected previous to the operation. Little of the cervix is left if the incisions which amputate the uterus are made obliquely. He considered the indications for removing the whole uterus or leaving a stump. The consensus of opinion appears to be in favor of total extirpation. This prolongs the operation twenty minutes to half an hour. The evil of the operation is the danger of wounding the uterus. There is also danger of infection of the peritoneal cavity from the vagina. The cervix is the seat of sexual sensation to a certain degree, and it is desirable to leave it unless there are indications for its removal. When hysterectomy is performed for malignant disease total extirpation should be selected.

When the cervix has been removed either the vagina may be left open for drainage or the peritoneum may be closed and the vaginal raw surface left open, or the vagina and peritoneum may be wholly closed. The speaker preferred to close the vaginal opening entirely and use a glass drainage-tube. The method of election is the closure of the vagina and peritoneum. In this way no raw surface is left. The combined method of operating complicates matters. He discussed the relative value of abdominal and vaginal hysterectomy and the matter of personal equation, the training of the operator being an important factor.

COLLECTIVE INVESTIGATION ON THE USE OF THYROID EXTRACT IN THE TREATMENT OF FIBROID TUMORS.

DR. WILLIAM E. MOSELEY of Baltimore based his remarks on investigations made in the Baltimore Medical College and five cases in his own practice. He had come to the following conclusions:

1. That whereas some patients can take large doses of thyroid with impunity, others are injuriously affected by small amounts, and one should begin with a minimum dose, say 3 grains daily, and increase it very slowly, watching the heart and kidneys carefully.

2. In cases of bleeding fibroids, thyroid has an influence toward checking the loss of blood, and in certain cases it is followed by diminution in size of the growth.

3. That its use in appropriate doses is followed by improvement in the general health, probably due to the cessation of loss of blood.

Nine to 15 grains was the maximum dose, 1 to 5 grains three times a day. The average duration of treatment was nine weeks.

DR. JOHN B. SHOBER of Philadelphia spoke of the administration of the extract of mammary gland. The first case was that of a woman thirty-two years of age, the mother of two children. Since the birth of the last child she had suffered from dysmenorrhea and menorrhagia, and for two and a half years had been conscious of the presence of an abdominal tumor, which rapidly increased in size. When seen it was as large as a pregnant uterus at term. The next menstrual period after using the mammary extract lasted but three days, and three months later the tumor had been reduced one-third in size. The second case was that of a woman thirty-two years old, who had a large irregular multilobular fibroid, accompanied by painful menstruation and menorrhagia. She was put on increasing doses of mammary gland in January, 1898. The periods have become more regular and less painful, and she has gained in weight and strength. In the case of a third woman menstruation had been painful and irregular for two years. She was put under treatment in November, 1897, and menstruation is now regular and free from pain.

He said the drug seemed to have an influence over the uterine tissue something like ergot; it produces cramps, and has the same effect on the growth.

DR. HOWARD A. KELLY of Baltimore read a paper, entitled

THE TREATMENT OF MYOMATOUS UTERI.

He took the stand that the treatment *par excellence* of myomatous uteri is myomectomy, and that hysteromyomectomy must be reserved for exceptional cases. We must take hysteromyomectomy down from its prominence, because myomectomy is the operation to be thought of first; it is the operation of election in treatment of fibroid uteri and has an important field in women under forty years of age. During the child-bearing period it should be performed no matter what the size or number of the tumors. Hysteromyomectomy is to be preferred after forty in most cases. The risks of myomectomy are greater than those of hysteromyomectomy. Scarcely any two myomectomies are alike, and it is a more prolonged operation. His list of cases includes ninety-seven operations in whites and blacks since October, 1890. The myomata occupied every conceivable position from the fundus to the cervix. From one, seventeen myomata were removed. These operations include tumors in all positions and of all sizes up to the size of a six-months' pregnancy. Some were subperitoneal, many were interstitial, and many submucous. In numerous instances he opened the uterine cavity extensively; in one case it was opened from the cervix to the fundus.

The technic is one requiring extreme care. As to asepsis, he always wears rubber gloves and has his assistants wear them. He begins with the largest accessible tumor, and grasping it with a pair of forceps keeps up traction, and peels back the tissues, often using gauze to force them back, handling the structures as little as possible. He takes extreme care in stopping hemorrhage, sometimes using as many as four catgut sutures tied tight. The hemorrhage is to be stopped by bringing the opposing surfaces closely together. In rare instances where the muscular tissue is soft the vessels may be pulled out and ligated, but this is exceptional. If the hemorrhage is not well under control both uterine arteries may be tied. One objection is that on opening the abdomen the uterus looks frightfully diseased, and the impression is that it is nothing but a mass of myomata and that it is impossible to leave behind any of the uterus. The fact is, the uterus is often greatly hypertrophied; there is always abundant uterine tissue to leave behind. One can work out a plan and determine just what kind of operation it is going to

be. A sound in the uterus will discover at once whether the tumor is low down or high up.

SHOULD NON-ABSORBABLE LIGATURES BE DISCARDED IN GYNECOLOGIC SURGERY?

was the subject next presented for discussion.

Papers on this subject by Drs. S. C. Gordon of Portland, R. Stansbury Sutton of Pittsburg, Charles P. Noble of Philadelphia, and Howard A. Kelly of Baltimore, who participated in the discussion, will appear in future issues of the MEDICAL NEWS.

DR. A. PALMER DUDLEY then read a paper, entitled

CONSERVATIVE OPERATIONS UPON THE UTERINE APPENDAGES,

and reported two cases in full.

DR. ALEXANDER J. C. SKENE of Brooklyn showed an apparatus for searing the pedicle with the electrocautery. It consists of a pair of forceps with a galvanic wire in one blade. The broad ligament is simply seared, and the hemorrhage controlled. The vessel or ligament is isolated, compressed, and the current passed through it for half a minute. For the pedicle of the round ligament in cases of ovariotomy he has a pair of curved pressure forceps with claws to prevent the pedicle sliding out. It is necessary to place a pad under the forceps to prevent any desiccation of the abdominal wall; he uses his fingers for this purpose. The object is to desiccate, but not cauterize. The stump is completely desiccated and may be dropped into the abdominal cavity without the slightest danger of hemorrhage. He has closed the abdominal wound more than one hundred times and never had a suggestion of hemorrhage in any case. The heat is never high—190° F; it is gauged by the amperemeter. The length of time required for securing an artery or any thing short of a large mass of tissue is very short. For a pedicle like the broad ligament a minute is amply sufficient.

DR. J. WESLEY BOVEE of Washington read a paper, entitled

PATENCY OF THE STUMP AFTER SALPINGECTOMY.

His attention was first called to this subject by the case of a young woman who came to him with a large abdominal tumor, and with a history that both tubes and ovaries had been removed, but there could be no doubt of advanced pregnancy. Since that time in five specimens of uteri removed months after ablation of one or both appendages, the canal of the tube stump was still pervious. He then described briefly these cases of his own, and also spoke of those seen by other writers. The consequences of the permeability of the canals of these stumps are pregnancy and peritoneal infection. But four cases of pregnancy have been reported, but probably others have occurred. To some women pregnancy following the removal of the diseased adnexa means eminent danger, and is a condition to be absolutely avoided. If ligation of the Fallopian tubes as now practised is not successful, some other method must be devised.

The topic

THE SURGICAL TREATMENT OF STERILITY; HOW FAR IS IT JUSTIFIABLE OR EXPEDIENT?

was discussed by Drs. Mann, Wylie, and others. Dr. Wylie's paper will be published later in the MEDICAL NEWS.

THIRD DAY—MAY 26TH.

DR. ANDREW F. CURRIER of New York read a paper, entitled

(*a*) REMOVAL BY ABDOMINAL INCISION OF THE REMAINS OF AN EXTRA-UTERINE FETATION OF FOURTEEN-YEAR'S DURATION; (*b*) THE METHODS OF CHOICE FOR THE REMOVAL OF HAIR-PINS FROM THE BLADDER IN WOMEN,

and was followed by DR. EUGENE BOISE of Grand Rapids, Mich., whose paper was entitled

POST-OPERATIVE SALINE INFUSIONS,

which will appear in a future issue of the MEDICAL NEWS.

DR. HENRY D. FRY of Washington then read a paper, entitled

STREPTOCOCCIC INFECTION IN CHILDBIRTH, AND THE APPLICATON OF SERUM-THERAPY.

He said that the opinion of different investigators varies a great deal. Of 83 cases reported, in 10 the result was good, in 8 it was inactive, and 65 doubtful. He thought that this varying opinion might be explained by the fact that bacteriology is still in its infancy. Bacteriologists are in dispute over many points, some claiming that the serum only protects against infection from the same variety of germs from which it is derived. The particular infection must be due to streptococci. The protective power of the patient must be such that the infection can be circumscribed. The earlier it is commenced the better is the chance for success. The danger of delay is that the suppuration may break through the walls and the infection become general; but marked beneficial results have followed injections delayed eleven, fifteen, and twenty-four days. The injection should be administered once a day, preferably in the evening. The initial dose is from 5 to 10 cubic centimeters, but larger doses may be administered in severe infections. If it has a good influence it usually shows itself after the first two or three injections, but its use should not be discontinued too early. The general treatment is sustaining; the local treatment is antiseptic to destroy the bacteria and limit the amount of toxin. Out of 119 cases there were 77 recoveries and 42 deaths. The author thought it unfair to condemn the treatment because the majority of cases in which it has been used have been improperly selected, and many of the patients were moribund before the serum was used.

DR. WILLIAMS thought a certain technic should be followed, and cultures taken directly from the uterine cavity. Investigations show that when the streptococcus is present there is a mortality of nearly fifty per cent. He did not think the value of serum as great as claimed. He had seen cases in which there was a chill on the fourth day with a temperature of 104° or 105° F., which suddenly dropped to 100° F. If these patients had been treated with serum the improvement would have been attributed to it.

DR. REYNOLDS spoke of the virulence of pure strep-

tococcic infection. Patients infected by the streptococcus or the colon bacillus, when treated early, promptly and thoroughly locally with the curette, usually get well. If these forms of infection are complicated by streptococci the prognosis is doubtful. He had seen many recover, but more died. His experience with pure streptococcic infection has been that the patient has died; he has had but one recover, and she was seen at the time of the initial rise in temperature before the chill. She was curetted and put on strychnin and tonics. He had not had an opportunity of trying serum in favorable cases, but had tried it in advanced cases, without altering the fatal issue. He thought the serum should not be used unless a bacteriologic examination by an expert shows the streptococcus to be present.

DR. NORRIS said he believed we would some day find that there are certain cases which will be benefited by antistreptococcic serum, but not until we are able to know more of the natural history. There is a difference between the diphtheria bacillus and the streptococcus; the diphtheria bacillus loses its virulence in a relatively short time, but in puerperal septicemia, when the streptococci have invaded the organism to such an extent as to produce fever and other changes, there is a modification of the organisms in the blood and serum. With the streptococcic serum we cannot neutralize the ravages of such virulent micro-organisms but can only hope to fortify Nature until she is able to neutralize the virus produced.

DR. WILLIAMS gave his method of technic as follows: First, the external genitals are disinfected thoroughly. Then the patient is placed in the Sims position, and a sterile Sims speculum introduced. The cervix is seized with forceps, brought down, and wiped with sterile cotton. The intra-uterine culture-tube is then introduced into the uterine cavity. It is guided by the eye and does not touch the outside of the cervix. In a majority of cases a syringe has to be attached to aspirate local contents. Both ends of the tube are sealed with sealing-wax, after which it is taken to the laboratory and the contents examined.

DR. PRYOR moved that a committee be appointed to investigate and report on the value of antistreptococcic serum in the treatment of streptococcic infection whether puerperal or not. The Chair appointed DRS. FRY, WILLIAMS, REYNOLDS, and PRYOR.

The following officers were elected for the ensuing year: President, Joseph Taber Johnson of Washington, D. C.; vice-presidents, Howard A. Kelly of Baltimore, and Albert F. A. King of Washington, D. C.; treasurer, J. Montgomery Baldy of Philadelphia; secretary, J. Riddle Goffe of New York; other members of the council, Charles P. Noble of Philadelphia, H. Whitridge Williams of Baltimore, Charles M. Green and George J. Engelmann of Boston.

DR. MUNDÉ, after thanking the Fellows for their patience and favors in helping him to expedite the meeting and make it one of the most successful in the annals of the Society, introduced his successor.

The meeting then adjourned to meet in Philadelphia on the fourth Tuesday in May, 1899.

REVIEWS.

CATAPHORESIS. By WILLIAM JAMES MORTON, M.D., Professor of Diseases of the Mind and Nervous System and Electrotherapeutics in the New York Post-Graduate Medical School. New York: American Technical Book Co., 1898.

THIS is an attractively bound and well-printed volume, largely a compilation of the author's earlier articles on electromedical diffusion. The first 50 pages comprise a historical résumé of the subject. The succeeding 100 pages, with 74 illustrations, are given up to the technic of the electric apparatus necessary for cataphoresis. The remainder of the work is devoted to the therapeutic application of medicaments by cataphoric diffusion. The instances cited in behalf of its value are too few and casual to establish entire belief. The successful production of local anesthesia by the cataphoric diffusion of cocain or guaiacol cocain is very encouraging and deserving of greater trial. From the space allotted we judge that a most grateful field for its application has been found in dentistry to anesthetize sensitive dentine and gums prior to operative procedures. The bleaching and sterilization of teeth with peroxid of hydrogen are also given as accomplished facts.

The armamentarium is unstable in its present evolution and the expense of it may be an obstacle to a rapid generalization of this method which has some latent merits.

THE DISEASES OF THE STOMACH. By WM. W. VAN VALZAH, A.M., M.D., and J. D. NISBET, A.B., M.D. Illustrated. Philadelphia: W. B. Saunders, 1898.

WITHIN the past few years a number of exhaustive works on the diseases of the stomach has been published in the English language, so that even without the present work this field, which after all is rather a limited one, would have been amply covered. Without wishing in any way to detract from the merits of the book of Van Valzah and Nisbet, it must be admitted that confusion may arise from such an excess in one field when other closely allied subjects, such as the diseases of the intestines, have received so little attention.

After a brief introduction the subject matter is considered under five sections: Diagnosis and Diagnostic Methods; General Medication; The Dynamic Affections of the Stomach; The Anatomical Diseases of the Stomach; The Vicious Circles of the Stomach. The general classification is good, but the subdivisions are most elaborate and much more so than our present knowledge would seem to warrant. In this respect this book offers a very striking contrast to the recent classic work of Riegel which is laid down on very broad lines. However, the individual chapters represent a large amount of excellent work and careful research. One who is familiar with the literature of the stomach will recognize statements from other works with citations of authorities. Indeed, the small number of references is very striking when one bears in mind how extensive is the amount of investigation on this subject.

The section on diagnosis occupies 137 pages, and is an able presentation. It is, therefore, to be regretted that the sections on absorption and "digestive work" are so meager. In the section on general medication there is a very full discussion on diet. The dynamic and anatomic affections of the stomach are very well discussed. It was an excellent idea to present the effects of disorders of other organs on the stomach, and the secondary diseases of the stomach under the head of the "vicious circle of the stomach."

The number of illustrations is not large, but they are well executed. Fig. 12 representing the Oppler-Boas bacilli is open to the criticism that it does not show the characteristic enlargement of the bacilli at one extremity.

The style is good although objection may be raised to the undue use of words and terms like dyshematopoiesis, hyperchromatic degeneration, etc. Errors are surprisingly few for so large a work. Attention may be directed to the misuse of the word acupuncture, on page 493.

The publisher's work is well done and the volume will undoubtedly meet success.

THE INTERNATIONAL MEDICAL ANNUAL AND PRACTITIONER'S INDEX. A Work of Reference for Medical Practitioners. Sixteenth year. New York: E. B. Treat & Co., 1898.

THIS *Annual* still continues to present, in a somewhat condensed form, the progress of medicine and surgery for the year. The same general plan and arrangement which has characterized the work in former years has been carried out in the present volume. An exhaustive exposition of each new advance in medicine, which would only detract from the value of a work of this nature, is not attempted; but the salient features of all the important advances and discoveries are mentioned, and the many references and copious index make the book a valuable aid to the general practitioner.

A short chapter on pathogenic bacteria by Shattock, well illustrated by general colored plates, has been added. The text gives many useful hints on the methods of examination of the hanging-drop and the staining of bacteria, but far more than this is required in the diagnosis of all but a very few organisms. In a future volume the author should detail isolation and culture methods.

INTRODUCTION TO CHEMICAL METHODS OF CLINICAL DIAGNOSIS. By DR. H. TAPPEINER, Professor of Pharmacology in the University of Munich. Translated from the sixth German edition by EDMOND J. MCWEENEY, M.A., M.D., Professor of Pathology and Bacteriology, C. U. Medical School, Dublin. New York and Bombay: Longmans, Green & Co., 1898.

THE purpose of this little work is to furnish the student with a guide, which shall be at once compact and reliable, to the simpler chemic and microbiologic data required in modern diagnosis. The small scope of the work renders completeness almost impossible, and yet there are contained within its 147 pages most of the necessary elements for modern laboratory work essential to the scientific establishment of medical diagnosis. As an elementary text-book it will unquestionably find a sphere. More than this it cannot hope to accomplish. The paper and illustrations are very poor.

THERAPEUTIC HINTS.

Treatment of Ascarides in Children.—

℞ Ext. spigeliæ fl. . . . . ʒ v
Ext. sennæ fl. . . . . ʒ iii
Ol. anisi } aa . . . . . gtt. iii.
Ol. cari }

M. Sig. One to two tablespoonfuls two or three times a day.

Formula for the Administration of Cascara Sagrada.—

℞ Ext. cascar. sagrad. . . . gr. xxx
Ext. frangulæ . . . . gr. xv
Pulv. aloes } aa . . . ʒ i.
Ext. gentian. }
Saponis . . . . q. s.

M. Ft. pil. No. LXXX. Sig. One pill at night. —*Pruys.*

For Amenorrhea.—

℞ Strych. sulphat. . . . . gr. ½
Ferri peptonat. }
Mangani lactat. } aa . . . grs. xx.
Scammonii }

M. Ft. pil. No. XL. Sig. Two to four pills at night.—*Gutaud.*

For Infantile Convulsions.

℞ Moschi . . . . . gr. viii
Acaciæ . . . . . ʒ ss
Aq. fœniculi } aa . . . ʒ i.
Syr. aurantii }

M. Sig. One teaspoonful every one or two hours. —*Solomon.*

For Chronic and Intractable Vulvar Eczema in Children.—

I.—Spray affected region three times a day with a two-per-cent. carbolic solution.

II.—Once a week make a light application of ordinary acetic acid.

III.—If there be spots of ulceration cover them with a powder composed of one part of finely powdered iodoform and two parts of alum.

To Relieve Neuralgia of Phthisical Patients.—Capitan prescribes the following ointment. A very small quantity is lightly applied, and the part covered with some impermeable material and absorbent cotton. The application must be discontinued as soon as the skin becomes even slightly reddened:

℞ Guaiacol } aa . . gr. lxxx
Methyl salicylatis }
Ext. belladonnæ . . . . gr. iiiss
Ext. opii . . . . . gr. iv
Vaselin } aa . . . . ʒ ss.
Lanolin }

M. Sig. External use.

In very acute cases, menthol (15 grains), antipyrin (30 to 45 grains), or bromid of potassium (80 grains) may be added.

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXXIII. NEW YORK, SATURDAY, JULY 16, 1898. NO. 3.

ORIGINAL ARTICLES.

PRACTICAL ANESTHESIA.

BY S. ORMOND GOLDMAN, M.D.,
OF NEW YORK.

IT is generally admitted that deaths from chloroform are not infrequent. When it is considered that anesthetics are frequently given by inexperienced persons, and that patients are frequently improperly prepared and improper methods are employed to administer these agents, it is hardly surprising that fatalities occur. It is well known that complications, much less fatalities, rarely occur with experienced anesthetists. It is usually only the beginner who so frequently finds occasion to use the tongue-forceps and treat complications which do not really exist. Much has been written about deaths from chloroform. Little attention, however, is given by the average hospital junior or occasional administrator to the elimination of the evil effects of anesthetics, for no one will deny that proper narcosis will hasten rather than delay, as it usually does, convalescence from surgical operations. By a proper narcosis I mean a proper preparation of the patient and the administration of the anesthetic safely and skilfully. I therefore maintain that an ideal anesthesia should not only have for its object immunity from death, but that it should be so conducted that upon the patient's return to consciousness, it should be marked to the slightest degree by the knowledge that he has undergone narcosis.

We frequently hear of the advantages of chloroform over ether, and *vice versa*, usually by those who are accustomed to give the one agent only. No one is capable of judging the relative effects of the various anesthetics unless he has used each in a sufficient number of cases to become thoroughly familiar with them. While the future may disclose an agent for general anesthesia which will obviate the objections to ether and chloroform, we are at present limited to these two agents for the production of general anesthesia. One who has administered anesthetics to any extent is aware that there are certain types of cases in which the choice of the anesthetic and the method of anesthetization must be adapted to each individual case.

Proper Preparation of the Patient.—From one to four days preceding narcosis the patient should receive an active cathartic, as the mild mercuric chlorid or compound cathartic pill, in either case followed by a mild saline, my own preference being magnesium sulphate. He should be encouraged to drink as much water as possible, best accomplished by ordering a glassful at regular intervals during the day. If suffering from prolonged illness, and if hemorrhage or shock may be expected, he should receive once daily an infusion of normal saline solution, preferably introduced into the colon through the canalized Wales' bougie. The quantity should consist of about two quarts, and should be given about the middle of the day in the recumbent position, in which the patient should remain until it is retained. It is remarkable how much good can be accomplished by this simple procedure, as an uneventful narcosis and rapid convalescence may always be expected to follow it.

Preliminary preparation in emergency cases must, of course, be adapted to the exigencies of each case. If food has recently been taken, gastric lavage should always be employed, washing until all food particles have been removed. Patients who are not directly under the observation of the surgeon should be instructed not to take any food for at least five hours preceding narcosis, and this food should be of a variety easily digestible. It may be said that failure to observe these principles has frequently caused loss of life. The following case may be cited as mentioned to me by an anesthetist: A patient presented himself at a clinic in this city for operation, and with the surgeon's knowledge and consent was etherized. Shortly thereafter he vomited food, and ceased breathing in spite of all efforts of the surgeon and his assistants to resuscitate him.

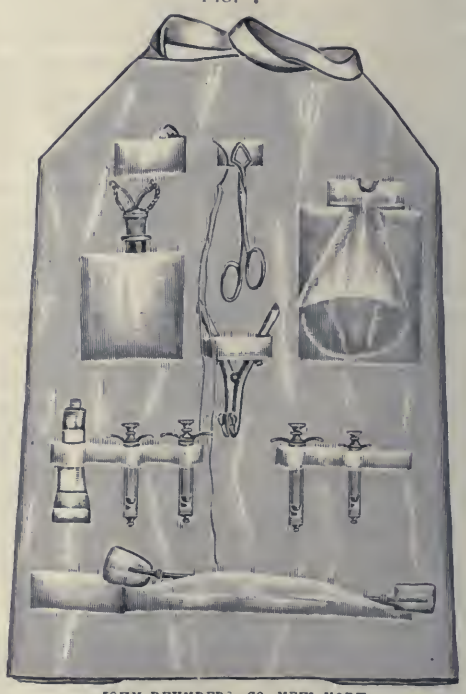
Thorough examination of the patient should never be omitted. The condition of the heart, arteries, lungs, and the urine need especial attention. The last is particularly important when open inhalers are used and little effort is made to reduce the quantity of the anesthetic to a minimum. I have frequently given ether in marked cardiac and renal disease without any deleterious effects following. I have never seen nephritis aggravated by the proper administration of ether. One case of acute exudative nephritis seemed to be benefited, for the day following narcosis casts and albumin, which were abundant before anesthesia, almost entirely disappeared. That nephritis can be produced or aggravated by the injudicious administration of ether by open inhalers

and supersaturation, I do not doubt, and I think may be a factor in its production, as well as of pneumonia following etherization. Transitory albuminuria and glycosuria I have observed following both ether and chloroform. They occur, however, so infrequently following a proper anesthesia that they need not be considered as possible complications. My custom has always been to examine the urine once, if possible, twice, preceding narcosis at each time that of the first voiding in the morning. I have also examined the urine two successive days following narcosis, and finally from one month to six weeks. These observations form the basis of an article in preparation, which will be presented shortly.

If it is necessary, hot concentrated broths of any kind may be permitted two or three hours preceding narcosis. It is advisable to have patients remain in bed for twenty-four hours preceding narcosis. False teeth should be removed, the patient should have on a woolen undervest and a night-robe, opening entirely down the front. The temperature of the room wherein the operation is to take place should be from 80° to 85° F., as should also that of the patient's room. Particular care should be observed in transporting the patient after narcosis. If this becomes necessary, he should be completely covered with woolen blankets, thereby preventing sudden chilling of the skin. The bed should have been previously warmed with hot-water containers, which may be placed about the patient, special care being observed that they be properly protected, as serious burns have been known to occur from negligence in this respect. The decubitus of the patient should be preferably the dorsal one, or, if necessary, the Sims' position. The head should be slightly extended and on a direct level with the body. This has a tendency to prevent falling back of the tongue, and facilitates the removal of saliva, which occasionally is troublesome.

It is the custom of certain operators to precede narcosis with the hypodermatic use of morphin and atropin, sometimes, in addition, whisky. The advantages claimed for this practice are that less of the anesthetic is required, the patient succumbs to its influence more rapidly, it tends to prevent cardiac and respiratory failure, and deepens narcosis. I have carefully observed many patients who were subjected to this practice; others who were not, and who underwent the most serious and delicate surgical operations that any patient is called upon to submit to. My observations have been that these so-called prophylactics are, in reality, positively harmful. The practice in no way reduces the quantity of the anesthetic required. Properly administered the agent can always be reduced to an exceedingly small quantity; that the patients succumb to the influence of the anesthetic sooner is not true. Patients can be anesthetized as rapidly without morphin as with it, and frequently more so; that this practice reduces danger of cardiac and respiratory failure I do not believe. I have seen accidents occur when morphin was employed which did not occur without its use. Further, morphin is a direct respiratory depressant, and, if for no other reason, this should contraindicate its use; that it deepens narcosis is too true; this is always undesirable, for the degree of narcosis should be such as to be readily controlled by the anesthetist. There is frequently a prolonged nausea and vomiting to be attributed to the morphin rather than to the anesthetic. Patients subjected to prolonged and painful operations in certain cases are, however, benefited by a hypodermatic injection of morphin, combined with atropin, upon complete return to consciousness. This is, however, to be decided by the surgeon, the element of anesthesia not to be considered.

FIG. 1.



JOHN REYNDER—CO. NEW YORK.

Author's apron.

Before beginning the narcosis the anesthetist should be fully prepared with instruments, stimulants, etc., to combat any emergency which may possibly arise. For this purpose I have devised the apron here shown It is arranged with pockets or compartments for holding the mouth-gag, tongue-forceps, sponge-holders, chloroform or ether bottle

containing a known quantity, hypodermic syringes, and needles. These are filled to the required amount with strychnin, nitroglycerin, atropin, to be used only as mentioned after operation, morphin, and digitalin (Duquesnal). The needles are not fastened to syringes, but are kept in a separate compartment and adjusted when necessary, this requiring but a moment. It will be seen these things are attached to the anesthetist, and can be immediately used when occasion demands. They are also unlikely to become broken from any cause. I desire to say that, while I always have these things with me, it is exceedingly rare that I find it necessary to use them. But not knowing in any individual case what complications may arise, no one who administers an anesthetic should fail to be provided with them. To do so is to invite disaster. The best way to treat complications is to prevent them. If strict attention is given to the narcosis complications will rarely occur. I may repeat that only the inexperienced so frequently meet dangerous symptoms, although they will occasionally occur in the hands of the expert.

Ether Inhalers.—These may be conveniently classified as open and closed. The first variety is made to allow a free ingress of air; the others so arranged that to the distal end is attached a rubber bag into which the patient exhales, and, to a certain extent, rebreathes the air (which is practically carbon dioxid).

The Allis and Sims inhalers are the most largely used of the open variety. Ormsby's modification of Clover's inhaler, as a closed inhaler, is that most frequently used in New York and vicinity. It may not be amiss here to mention the towel-and-paper inhaler. This consists of several layers of paper to give it consistency, with a towel externally, the whole folded to make a cone, into which the towel ends are packed, or in addition, gauze, sponge, or absorbent cotton is introduced upon which the ether is poured. This is, in reality, a closed inhaler, but is usually not so considered. The interior is so small that there is not sufficient space for the air in an ordinary respiration. Into this the patient exhales. The ether is immediately volatilized and expelled around the edges of the cone before the patient inhales again. This is forced upon the patient's face, and he is practically first asphyxiated, then anesthetized. Those who decry closed inhalers are usually the greatest advocates of this cone, whose one advantage is its cleanliness. The Allis and Sims inhalers are too well known to need description; they unnecessarily waste the ether and require considerable time to anesthetize the patient. The flannel used in the Allis inhaler is rarely changed after each narcosis. The Sims inhaler is easily broken, clumsy, and poorly adjusted. The Ormsby inhaler consists of a central, elliptical, metal part, to which is attached a rubber-bag. There is a pneumatic mouth-piece and a wire-basket for a sponge or a horse-shoe-shaped piece of metal perforated with holes, through which ether is poured upon a sponge. There is usually a contrivance upon the outer side of the metal piece for introducing air or replenishing ether without removing the inhaler from the patient's face. This inhaler, while efficient, is expensive, and not easily cleansed; it is poorly adjusted, and the ether and air contrivances are unnecessary.

To obviate these several defects, I have devised the inhaler here shown. It consists of a longer central cylinder and a shorter one telescoping into its distal end. Both are flanged. To the proximal or mouth-end is attached a solid, non-pneumatic rubber face-piece with rolled edges. A very thin rubber bag of fullest respiratory capacity is attached to the smaller cylinder; a metallic basket for gauze, inserted into any part of the cylinder, completes the inhaler. Its advantages are its evident simplicity, each part being removable, and thus rendered easily aseptic. The parts may be replaced at small expense. It is easily handled, economical, reducing the quantity of ether to from two-thirds to three-fourths of that usually used with open inhalers. One can anesthetize the patient in one-third the time usually required by the Allis or Sims inhaler. There are no ether or air replenishing valves to get out of order; when it becomes necessary to introduce more ether or air the inhaler is simply removed. Only gauze is used, freshly replenished for each case. Lastly, it can be employed also as an open inhaler if desired, for chloroform, by removing the rubber bag from the small cylinder, attaching the mouth-piece, and covering the open end of the inhaler with three or

FIG. 2.

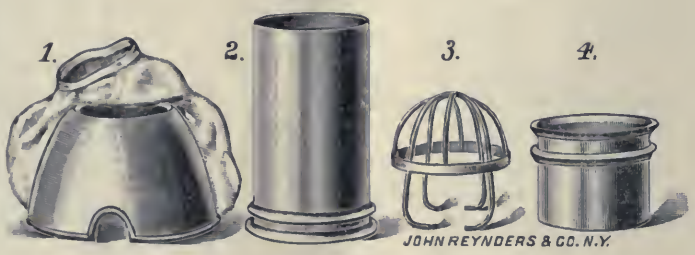
The author's ether-cone adjusted ready for use.

four layers of gauze, upon which the anesthetic is dropped. While I have used all the inhalers mentioned, I am convinced the closed variety is the inhaler *par excellence*. The patient by breathing into the inhaler inflates the bag, volatilizes the ether, which mixes with and is warmed by the exhaled air before being reinhaled. This inhaled air is ether and carbon dioxid, the last always essential for ideal etherization.

It may be said that certain large and plethoric patients, and especially those addicted to the use of alcohol, will not always tolerate carbon dioxid. Their condition is such that the elimination of carbon dioxid is not normal, and the blood quickly becomes surcharged. In these instances the removal of the bag and the small cylinder is desirable. For a chloroform inhaler the mask of Esmarch is most largely used in this country, but the small cylinder just described may be employed.

For operations about the mouth, pharynx, posterior nares, etc., in which preliminary tracheotomy becomes necessary, the following apparatus can be extemporized: To the distal end of two or three feet of medium-sized rubber-tubing is attached a glass funnel of a capacity of about eight ounces. This is covered with about four layers of a fine-meshed gauze, brought over and tied to the stem of the funnel. The end for insertion into the trachea is wrapped with gauze, covered with protective tissue. Chloroform is dropped on the taut gauze-covered funnel, the narcosis in every other way being conducted as if inhaled by mouth.

FIG. 3.



The author's ether-cone separated for cleansing.

Inhalation of Chloroform.—Vaselin should be applied to that portion of the patient's face immediately covered by the mask. It should be carefully understood, no matter which cone is used, that chloroform vapor should never exceed four per cent. of the air inhaled. (Snow.) This is best assured by giving the agent gradually, drop by drop, on several layers of gauze, through which air readily moves. Under no circumstances should the mask ever be saturated with chloroform. That so many deaths occur from chloroform is explainable largely by overdosage by this improper method. I have frequently seen the mask saturated with chloroform and the patient encouraged to breathe deeply; that they show signs of collapse is hardly to be wondered at. By dropping the chloroform just as the patient inspires will greatly reduce the quantity required. I have frequently successfully maintained chloroform narcosis in adults for two hours with 6 drams, and this without the so-called prophylactics. As soon as anesthesia is complete, the mask should be removed, permitting the patient to breathe the air. A little practice will teach one when to reapply the mask. The time to establish a complete chloroform narcosis in adults should never be less than five minutes. This was Snow's average time for chloroformization. To anesthetize in less time than this would necessitate concentration of the vapor with its attendant dangers. During the whole narcosis strict attention should be given to variations in the respiration, pulse, skin, pupil, eye-lids, lips, etc. Complete anesthesia is usually indicated by deep, rhythmical respiration, absence of corneal or conjunctival reflex, muscular relaxation, and insensibility to pain. It should be remembered that some patients will be completely anesthetized and the corneal reflex still persist. It is rarely necessary to push the anesthetic to the production of stertor in order to abolish this reflex. Relaxation of the eyelids during narcosis will usually obviate touching the conjunctiva. If this becomes necessary, gently pulling open the upper eyelid and touching its inner margin with the tip of finger will answer. In children the corneal reflex is quickly abolished. Here substitution of the palmar reflex will answer, or close attention to the respiration will always indicate complete anesthesia.

Variations in the pupil should always be noted. During primary anesthesia the pupil dilates. This always occurs also in very profound narcosis, which should always call for the removal of the anesthetic. In order to test the degree of narcosis where the pupil is dilated, a fresh supply of ether should be poured into the cone and applied to the patient's face. Efforts at swallowing, inhibition of inspiration, tonic contraction of the muscles of the lower jaw, grating of the teeth, all indicate imperfect an-

esthesia. When these symptoms do not arise too profound a narcosis is indicated. To continue the anesthetic would subject the patient to the risk of sudden death. The pupil during complete anesthesia should never be more than moderately dilated, and should always respond to light. Variations in respiration can be observed by watching the movements of the thorax or feeling the expired air against the anesthetist's tympanum or the dorsum of his fingers. Spasmodic movements of the chest indicate that respiration is being improperly performed, for very little air may be actually entering the lungs. When this condition exists with shallow, rapid, and high-pitched respiration, obstruction should be sought for and removed. The condition in the skin and mucous membranes should always be, at least, what it was when anesthesia was begun, the patient being faintly flushed. Sudden pallor or lividity call for immediate removal of the anesthetic. The skin should always be moist. Pulse variations are of greatest import. Increased rapidity of the pulse, if regular and of good quality, does not call for the removal of the narcotic. An irregular and feeble pulse, however, indicates its instant withdrawal. Efforts at vomiting, coughing, and articulation show an improper narcosis, and call for a continuance of the anesthetic.

Chloroform is preferable to ether when, for any reason, the latter does not act well. The change to chloroform will be found desirable and satisfactory. Conditions of the urine, indicating nephritis, acute or chronic, as well as acute pulmonary affections demand chloroform rather than supersaturation with ether by open inhalers. In alcoholics it is frequently desirable to begin the narcosis with chloroform and continue with ether after the patient is anesthetized. This may also be desirable in the excessively nervous and hysterical, the fumes of chloroform being, as a rule, more pleasant to inhale than ether. In obstetrics when it is usually not necessary to carry the narcosis beyond the second degree, chloroform should be used, but in acute hemorrhage, as in placenta previa, it should not be employed, ether being preferable. In operations about the face, necessitating the use of the cautery, ether being very inflammable, chloroform should be chosen. It is true that if ether is administered with closed inhalers, care being taken that the ether bottle is closed, this objection to ether can be overcome, as can also its use by night. In arterial disease, where for any reason increased arterial tension is undesirable, chloroform will usually be found preferable to ether, as ether is a direct cardiac and vasomotor stimulant and increases liability to rupture. Chloroform is extremely irritating when its fumes are subjected to decomposition by the action of any open flame which occurs in its use at night. Chloroform has certainly advantages in military practice, it being less bulky, cheaper, and economical when the quantity used is considered. Its higher boiling-point also makes it preferable for use in tropical countries.

The administration of ether, modified by chloroform or nitrous oxid, as before observed, may be preceded by chloroform until the patient is anesthetized, the narcosis thereafter being maintained with ether; or if preferable, nitrous oxid may be used primarily, to be followed by ether. It may not be amiss here to say that the reasons for using nitrous oxid are to eliminate the unpleasant symptoms frequently produced during the primary stage of etherization. I might repeat, if ether is properly administered these unpleasant symptoms will be the exception rather than the rule. Improper methods are probably the cause of these unpleasant symptoms and not the anesthetic.

A few words regarding nitrous-oxid administration may be in place. The gas-bag should be free from air. The inhaler should have two valves so fashioned that the patient does not rebreathe the same air. The cone should be closely applied, a hard rubber cube being first inserted between the teeth. The patient should be instructed to breathe deeply. As soon as cyanosis, stertor, and muscular relaxation are produced the gas should be discontinued and fresh air admitted. As soon as the patient shows signs of returning consciousness the gas should be readmitted. In this way I successfully maintain nitrous-oxid anesthesia for from twenty to forty-five minutes. If ether is to succeed the gas the closed inhaler should be closely applied, etherization then being conducted in every way as if the gas had not been employed.

Administration of Ether.—About one or one and one-half ounces should be poured upon the gauze, the patient being encouraged to breathe deeply. This is completely the reverse of chloroform administration. The cone should never be suddenly applied to the patient's face. As the upper air passages become accustomed to the vapor the cone should be gradually brought to cover the nose and mouth, excluding as much air as possible. Complete narcosis, which is manifested in the same way as anesthesia by chloroform, in non-alcoholic patients average five minutes. If ether is administered in this way the unpleasant symptoms will rarely occur. The same attention to respiration, pulse, pupil, and the color of skin should be given as with chloroform. It should be carefully understood that ether should not be continuously administered. After the patient is anesthetized the cone should be removed frequently,

permitting him to breathe fresh air; when reapplying the cone a very small quantity of the anesthetic will suffice for further narcosis. It is frequently said that one cannot with any accuracy gage the amount of ether necessary for any particular narcosis. In reference to this it may be replied that a narcosis lasting two hours can, with a closed inhaler in non-alcoholic cases, be maintained with from three to four ounces.

Ether should be administered in cases in which chloroform acts unsatisfactorily and in which dangerous symptoms repeatedly manifest themselves; in acute hemorrhage, as the vasomotor tone is stimulated while it is depressed by chloroform; in shock, when an anesthetic is necessary, ether is to be preferred. In general pulmonary emphysema it is far safer than chloroform.

Children take ether remarkably well. Its usual objection is its liability to irritate the respiratory mucous membrane. I do not think it more irritating, if properly administered, than chloroform. Old age is said to contraindicate ether, because of a preexisting chronic bronchitis in many cases. Properly administered it will not increase bronchitis. It is particularly indicated in old age since it is a cardiac and vasomotor stimulant. In fatty heart, endocarditis, syncope, if an anesthetic must be used, ether being less dangerous than chloroform, should have the preference. At night ether is preferable to chloroform, being less irritating to those about the patient than chloroform. Its liability to catch fire can be obviated with a little care.

Untoward Symptoms During Narcosis and Means Used to Combat Them.—Cyanosis. This may be due to falling back of the tongue on the epiglottis, malpositions of the patient, in which the head is lower than the body or in a continued Trendelenburg position. To remedy the first, pressure forward behind the mandibular rami will usually answer. If this does not suffice the tongue forceps may be applied or a tenaculum passed back near the base of the tongue and traction employed in a forward direction. If this occurs frequently it is better to pass a heavy silk thread through the tongue. This device is, however, very rarely necessary. The head should always be on a level with the rest of the body; this will obviate the second cause of cyanosis. Patients operated upon in the continued Trendelenburg position should, from time to time be placed in a horizontal position, as the pressure of the abdominal contents upon the diaphragm and the organs of the thorax impedes respiration. Mucus, saliva, blood or any foreign body becoming impacted in the pharynx or larynx may impede respiration. Removal with a sponge will usually answer. The impaction of loose teeth, or particles of undigested food, is prevented by proper preparation of the patient. If they should be the cause of obstruction the forceps or finger will usually dislodge them. If it does not, complete inversion of the patient and slapping the back vigorously will usually suffice. Efforts at vomiting indicate incomplete anesthesia. Gently pushing the anesthesia will abolish this reflex. If vomiting occurs the patient should be turned completely on the side with head slightly lower than the body. Before continuing the anesthetic the patient's mouth should be thoroughly cleansed. Blood entering the larynx will interfere with respiration. If not prevented it will cause death by asphyxia. If this occurs during the operation, the patient should be placed in the Trendelenburg position. If this does not quickly restore the patient tracheotomy or laryngotomy may become necessary. I have had but one case in which this became imperative. The patient was undergoing operation for extirpation of the external carotid artery, and excision of the floor of the mouth. From the inhalation of blood and mucus he stopped breathing. In this case the scalpel introduced into the cricothyroid membrane immediately produced relief.

Over dosage by a too concentrated or prolonged administration of an anesthetic is depressing, or if still continued, will cause death by paralysis of the vital centers. Ether causes death usually by asphyxia. Administered properly it always increases cardiac and vasomotor tone. If prolonged and concentrated, circulatory depression will result, death really being due to asphyxia. There is still a diversity of opinion as to whether chloroform causes death by cardiac or respiratory paralysis, the Edinburgh School and the Hyderabad Commission especially regard respiration of prime import, and recommend that strict attention to the breathing is the all-essential in chloroformization. More recent investigators, both in Europe and America, maintain that the pulse should be the anesthetist's particular care. Undoubtedly, chloroform may cause death first by respiratory paralysis, though most investigators claim (and correctly, I believe), that the heart or the circulatory apparatus fails in the vast majority of cases. Occasionally, they both fail at the same time. According to Hill of London, "chloroform produces a primary failure of the circulatory mechanism and secondary failure of the respiratory centre. The respiratory center fails to act from both direct poisoning by the drug, and from anemia of the medulla, produced by the fall of arterial tension. This is proven by the fact that the action of the respiratory center can be renewed by raising arterial tension; that chloroform more than any other agent

rapidly abolishes the mechanisms which compensate for the hydrostatic effect of gravity; that it abolishes these mechanisms by paralyzing splanchnic vasomotor tone; it also produces paralytic dilatation of the heart."

Treatment of Chloroform Syncope and Threatened Death by Etherization.—The anesthetic should be discontinued and fresh air admitted to the room. The patient should be quickly inverted by pulling him to the edge of the table until his legs hang over its edge. Raise the foot of the table and rest it on two chairs or a bench. This refers to those cases in which a regular operating-table is not used. Artificial respiration, preferably by Sylvester's method, about eighteen respirations a minute, should be practised. Rhythmical traction of the tongue, Labordes' method, eighteen times per minute, will stimulate respiration. Applications of cloths wrung out of very hot water over the region of the heart will stimulate it to increased action. The Koenig-Maas method of rapid compression of the chest, the thumb of one hand being applied over the heart, will stimulate both respiration and the cardiac beat. Direct insufflation of air into the chest by bellows (Fell) or by means of a soft rubber catheter introduced into the trachea, may sometimes be valuable. The anesthetist takes several deep inspirations, then exhales into the catheter to his entire extent. Introduction of a normal saline solution into a vein, the temperature being 105° F., or if into the rectum the temperature being 115° F., is of supreme value. The recurrent rectal tube of Dr. R. C. Kemp may be used, the water continually flowing. I have had excellent results in cases in which this was done. Hot coffee, introduced into the colon, is excellent. Atropin $\frac{1}{60}$-grain, and strychnin $\frac{1}{30}$-grain subcutaneously, being sure to have dosage large enough, are indicated. Amyl nitrite should never be used. It increases vasomotor depression. Alcoholic stimulants are contraindicated, as they tend to deepen narcosis.

Remote Sequels of Anesthesia.—These are nausea, vomiting, bronchitis, pneumonia, nephritis, and paralysis. Nausea, vomiting, and bronchitis are more frequently the results of improper preparation of the patient and of improper methods of administration than the anesthetic itself. In my experience nausea and vomiting have been the exception, following anesthesia either by ether or chloroform; if it persists, one-half ounce of hot water, or something cold, at varying intervals, with or without the addition of 10 drops of lemon juice, will often abate it. The factors in the production of pneumonia following ether are a predisposition on the part of the patient; supersaturation and inhalation of cold ether by open inhalers; septic inhalers; sudden chilling of the patient. Pneumonia is an exceedingly infrequent sequel of anesthesia. Bronchitis is occasionally seen. Nephritis, I think, is more frequently caused by chloroform than by ether. Proper administration of the anesthetic and the reduction to the smallest quantity possible to produce perfect anesthesia will reduce this complication to a minimum. Paralysis can be central or peripheral in its causation. The latter is most frequent, and is caused, usually, by pressure upon a supplying nerve or by pressure of a crutch or apparatus for maintaining the position of the patient. Central paralysis may be caused by rupture of a vessel in the brain. An improper method of administering the anesthetic is here the cause, as it is in so many other complications during or following narcosis.

The substance of this paper is based upon upward of 1400 cases of ether and chloroform narcosis actually administered (not merely observed) by the writer.

SUTURE AND LIGATURE MATERIAL; ABSORBABLE OR NON-ABSORBABLE?[1]

BY SETH CHASE GORDON, M.D.,
OF PORTLAND, MAINE.

IT is evident to the most casual observer in the profession that this question is still unsettled, if, indeed, it ever can be settled absolutely. It seems desirable that there should be as much unanimity as possible and the object of this paper is to invite the fullest and freest discussion. The different opinions held by men equally experienced and honest must leave the younger members of the profession in much doubt as to the course they shall follow. Sims revolutionized the practice of surgery by the introduction of silver wire in vaginal operations, and Emmet has continued it until to-day. Halsted uses it very extensively, but for other reasons than the original one offered by Sims. His principal reason is that it is not only capable of absolute sterilization, but is of itself a germicide. He buries it and closes the external wound with it. With these notable exceptions, this, like all other metallic sutures, which have had more or less favor, has been rather relegated to the lumber-room of surgery.

In the opinion of the writer the aseptic quality of silver wire entitles it to preference over nearly all kinds of non-absorbable material. Silkworm gut would come nearer to this than any other. Silk is perhaps more generally used than all other material of this class. Some surgeons claim that silk

[1] Read in the Discussion, "Should Non-absorbable Ligatures Be Discarded in Gynecological Surgery?" at the Twenty-third Annual Meeting of the American Gynecological Society, Held at Boston, Mass., May 24, 25, and 26, 1898.

should not be classed under non-absorbable, but too many instances of fistulous openings continuing until the ligature or suture has appeared, are evidence to invalidate such a claim. Every hospital in the world and nearly every surgeon of prominence can furnish such evidence. Silkworm gut can be impeached on similar testimony. Halsted uses no absorbable suture. If I understand this distinguished surgeon of Johns Hopkins correctly, he would prefer absorbable sutures provided he could be sure of freedom from septic germs. I may misunderstand his position. From all data at hand I have nearly reached the conclusion that the profession generally would, for most purposes, prefer absorbable material for both sutures and ligatures if they could be satisfied on two points: First, that it would not be absorbed until it had accomplished the object for which it was used, *viz.*, retain the parts in apposition until complete union had taken place, or in case of ligature of a vessel, until it is safe from hemorrhage; and, second, that the material is absolutely aseptic at time of use and will remain so until absorbed.

Assuming the second proposition proven let us examine and see what is absolutely necessary to hold the parts in apposition and how long it is necessary for a suture to last to do this. Repair of tissues when wounded, everything being aseptic, and the parts accurately approximated, is a perfectly normal, physiologic process, simply a regeneration of tissue. If no strangulation takes place (*i. e.*, interference with the circulation) repair begins at once and in twenty-four hours union is established by a plastic material which consolidates rapidly and becomes permanent. If by any means the surfaces could be retained in contact without the intervention of sutures the reparative process would go on much more rapidly, because no part of the circulation would be vexed by the pressure of sutures. Warren, in his "Surgical Pathology and Therapeutics," under the article, "Process of Repair," says, "Formerly the changes brought about in the tissues, by means of which repair was effected, were supposed to be caused by inflammation. It was thought that a smart inflammation was necessary to glue the lips of a wound together. Aseptic surgery has demonstrated the error of this view and it is now known that the two processes are quite independent of each other." This view of inflammation and repair was taught by Peaslee fifty years ago and I, as a disciple of his, have believed and taught the same during my whole professional life; that so far from inflammation being a part of the reparative process it is distinctly antagonistic and destructive to it. Warren further shows that while actual repair will take place in aseptic wounds in a very few days, yet complete solidification requires about three weeks. Therefore while superficial wounds will require sutures but a few days, deep-seated ones, like abdominal section, may need suture material that will last longer. It does not follow from this, however, that sutures need be buried if non-absorbable, for they will act to a greater or less degree as a foreign body and attract around them an exudate to encapsulate them, a material much less durable than normal repair tissue.

The absorbable materials for sutures and ligatures are catgut and kangaroo tendon. Dr. Marcy of Boston has used the latter for many years and is fairly entitled to all the credit pertaining to its introduction; his reports have been carefully presented to us and no one can question that in his hands it has been very efficient. My own experience with it has been limited and my observation among my colleagues does not encourage me to use it any more. It may be that it has not been carefully prepared or properly used. My chief objections to it are the short strands preventing over-and-over suturing, which I do very much in hysterectomy, and the possibility of its remaining unabsorbed too long and producing fistulous openings. I know of many instances of this, although it may have been due to faulty technic. Doubtless catgut is used more extensively than any of the absorbable materials. Its chief merit, in my experience, is that it rarely fails of absorption, and it is elastic, so that if a suture be drawn too close at first it soon gives enough to prevent strangulation of tissue. In this way one can do the over-and-over suture, an important thing where hemorrhage occurs in parts where much difficulty is experienced in ligating vessels in other ways.

The objections which are urged against its use are: First, the fear of infection owing to the extreme difficulty of rendering it strictly aseptic. So great is this fear that such men as Halsted absolutely refuse to use it or have it used by their assistants. Halsted claims that no specimen that he has examined is free from pathogenic germs; his authority is of more weight from the fact that all materials used at Johns Hopkins Hospital are subject to the most careful culture. Another objection is that if it is rendered absolutely sterile the fiber is to a great degree impaired and thus loses its strength. A third objection is that it is absorbed too soon and the tissues separate before complete union has taken place. While the fear of infection is paramount with some, in my opinion by far the larger number object to the material on the ground that it does not last long enough to prevent hemorrhage or to hold deep-seated tissues in apposition until union is solid. It is a very common expression among surgeons of my

acquaintance, "I should like to use catgut but do not dare to. I am afraid of hemorrhage." The feeling begins to be general that an absorbable suture is the ideal one, and one by one surgeons are coming to use it.

Since 1894 I have used no suture or ligature that was not absorbable, with the single exception of silkworm gut, and that only for closing the abdominal wound. In the latter case I include all the tissues with the silkworm gut, commencing from within and bringing the needle out, threading the other end and carrying it in the same way through the opposite side; this I believe is a preventive against stitch abscess, as I rarely see one. All my other ligatures and sutures are of catgut. In hysterectomy I use the over-and-over suture from beginning to end of the operation and nearly all ligatures used in the pelvic cavity are carried through the tissues by a needle and tied afterward. This is done to avoid slipping, which is so apt to occur when catgut is used in the ordinary manner. In commencing a hysterectomy I include a portion of the broad ligament, and after ligating as strongly as possible I carry the needle below the point of ligation, through the ligament, tying to the free end already used in the first ligature. In this way I secure the ligature from slipping from the ovarian artery, an accident which often happened before taking this precaution. The over-and-over suture is continued from that point on to and including the uterine artery, which I secure in the same manner. If the abdominal walls are thick I usually stitch the fascia with an over-and-over suture of very small catgut. It may not be necessary in ordinary cases, but seems best in the cases described. In finally closing the abdominal wound the silkworm-gut sutures should be drawn well up and tied just close enough to fairly approximate the surfaces, but not tight enough to depress the skin or in the least strangulate the tissues. Within two or three years I have allowed these sutures to remain at least two weeks and then removed every alternate suture, allowing the balance to remain from three days to a week longer By this method the parts are kept from any strain and hernia is almost unknown; in my opinion this is a very important step in its prevention; rarely is there any redness in appearance even at the end of three weeks.

For radical cure of hernia I have found the buried mattrass catgut suture to be sufficient, especially since I have made the incision freely above the internal ring. One modification of this operation, both of the Bassini and Halsted, I have made, which I like and shall repeat in a favorable case. Instead of closing the canal by buried sutures and then placing the cord between the surface and the fascia and closing the fascia over it, as in the Bassini, I place the cord above the fascia, after closing it separately, and then close the fatty and connective tissue, which lies between the fascia and the skin, over the cord (with catgut), instead of closing the skin over the cord as in Halsted's operation. This leaves the cord free from the skin and prevents adhesion to it. In all previous operations I have seen more or less swelling of the testicle, both in the Bassini and Halsted methods. In the instance in which I followed this procedure the fascia was thin and was closely bound down to the edge of the canal so but little room was left after the canal was closed. I feared if I did the Bassini operation it would press too hard on the cord. The result was that no swelling or soreness occurred in the testicle and the patient recovered with no discomfort from these usual complications. Catgut is the only suture that would have fitted such a condition without producing more or less strangulation. I do not know of any case of failure in hernia operations which has been in any way fairly attributable to the catgut suture. I do not use the chromicized gut for the reason that in many cases it is so hard that it will not be absorbed, and if by chance it should not be absolutely sterile very great harm would result from the operation, and even were it sterile and non-absorbable a foreign body is left which interferes with free circulation of the part, hence with perfect nutrition and repair.

Our object in hernia operations is to close the ring and canal perfectly throughout, and it is safe to assert that two or three weeks at most are sufficient for this, and as well-prepared catgut will certainly last that time, when buried, hence Nature's own union, when perfect, must be stronger than any artificial union. All exudate thrown out around a buried non-absorbable suture must be of much lower vitality than normal repair tissue, and consequently must be much more easily absorbed, thus rendering parts less resistant to pressure from within. The operations for hernia by injection of stimulating and corrosive remedies produce an exudate which lasts for a time and the patient is led to believe a cure is effected; but most of them give way after a time, the exudate having been absorbed. So far I have been entirely satisfied with the buried catgut suture, closing the canal, transplanting the cord by one or the other methods resorted to and uniting the skin by an over-and-over fine suture, or by Marcy's subcutaneous suture. Successful operations for hernia would seem to be as good a test as any operation in surgery, and if an absorbable suture accomplishes firm union of the tissues one cannot wish to leave a foreign body, which if it does anything must do harm

by interfering with normal circulation through surrounding itself by an exudate of low vitality. I have used catgut in all operations about the uterus and vagina, both for recent lacerations and those more remote and if at some time I have had partial failure it has doubtless been due to some fault in technic rather than to the catgut. I am sure that I have had many less failures from catgut than from the non-absorbable suture. There is this to be said, however, on the other hand, that when I used silver wire the profession was not doing aseptic surgery.

Perhaps one of the very strongest tests of the catgut suture is in the operation for cleft palate. This I have done repeatedly and, as a rule, with absolute success, never having had a *complete* failure since I began its use. Mr. Owen of London told me in 1890 that, in his experience, fully fifty per cent. of his operations were failures with silver wire. Occasionally I have found one or two stitches give way, leaving the cicatrix gaping, but generally the spaces have filled in by granulation afterward, so that no second operation was necessary. Mr. Owen admitted to me that he should like to try the catgut, for theoretically it appealed to him, but hitherto he had feared to use it owing to a lack of confidence in its durability for a time sufficient to produce union. Upon my statements regarding my own cases, he said he would gladly try it at the very next opportunity. I think Mr. Owen voices the general feeling about absorbable sutures; all recognize the difficulty attendant upon the use of non-absorbable ones, but have not full confidence in catgut, some fearing it for septic reasons, but the majority from lack of confidence in its durability.

Among my early operations of perineorrhaphy, like every one else, I used silver wire, but frequently removed it in four or five days and found everything well united, even in a case of complete laceration; indeed, in the first case of complete laceration for which I operated I ordered the sutures to be removed at the end of the fourth day. It proved a success but I confess that subsequently I did not dare repeat the procedure. All of us have seen how much the wire sutures cut the tissues when left a much longer time than this. The fault in part no doubt lies in twisting the wire too close and not allowing for the effusion of serum from the denuded surfaces and swelling.

In cases of vesicovaginal fistulæ I have had no opportunity of trying catgut, such accidents having almost gone out of the domain of surgery. I should certainly try it should occasion offer. I should not attempt to close abdominal incisions without the aid of silkworm gut, as it is retained longer. Some surgeons have had good results even in this operation with absorbent material, closing each layer separately. I think, however, they have mostly used the kangaroo tendon. I do not recall a case of hemorrhage following the ligation of arteries, where the accident was clearly the fault of the catgut, unless it may have been due to the fact that the ligature slipped from the tissues more easily than silk would have done. More care should be used in tying, otherwise slipping may take place. In using catgut in the ligation of small vessels embedded in the tissues the threaded needle is much to be preferred, as I have before said. It is a matter of very much importance to secure pure aseptic catgut, for here is where lies the principal danger. My own experience in preparing it has been very limited and altogether unsatisfactory. I shall make no further attempts in this direction. A friend in whom I have much confidence prepares his own by allowing the crude strands to remain in strong ether for two or three weeks, then transferring to bichlorid alcohol for a similar time, and lastly keeping in ninety-five per cent. alcohol. This does not weaken the gut and he has found no trouble from it in any way. My own preference for the commercial gut is the preparation which comes to us in alcohol. I use it from the bottles without boiling or further preparation. All efforts to more completely sterilize it has, in my experience, but served to weaken it, and so far as I know or suspect there has been no septic influence from it. It is usually uniform in quality and strength, and while expensive one can feel that it is safe to use it for all purposes. Within a few months I have used catgut which is sold in a dry state enclosed in wax paper, and from the statements of the manufacturer I am satisfied that the greatest care is used in its preparation. The only suggestion that I have to make in regard to this preparation is that the strands should be made longer to enable the surgeon to do over-and-over sewing. Care must be taken to moisten the catgut before using, otherwise it breaks easily. I think it is absolutely sterile.

My conclusions are: (1) All suture material unabsorbed must necessarily have more or less exudate about it. (2) Such exudate is of lower vitality than normal repair where tissues are just approximated and not strangulated. (3) A few days only are necessary to insure repair, if there is no infection, and therefore in cases where no great amount of strain exists absorbable sutures only are needed. (4) Where continual strain on the parts is inevitable, non-absorbable sutures should be used for at least two weeks, but should be so placed as to be removable. (5) For such sutures silkworm gut seems to be the best as it can be made sterile and kept so. (6) For all other purposes catgut is sufficient. (7) In-

flammation is always destructive to complete repair. (8) Inflammation is always due to infection. (9) Sterile catgut or kangaroo tendon should therefore fulfil all indications for suture or ligature material, with the exceptions named.

RHEUMATIC PHARYNGITIS.[1]

By LEWIS S. SOMERS, M.D.,
OF PHILADELPHIA.

W. E., male, aged thirty-eight years, came to my office on May 23, 1895, unable to articulate or move his head without suffering intense pain, attracting attention by pointing to his throat and expressing by gestures his inability to speak. Examination of the oropharynx showed both tonsils to be intensely inflamed and touching in the median line. Saliva was flowing in a constant stream from the mouth and the pharynx was filled with thick mucus. On the left side a collection of pus existed in the peritonsillar fibrous tissue, which was immediately evacuated with a bistoury. About one ounce of pus was discharged and there was some relief from pain, while the tonsil diminished in size sufficiently to enable a view to be obtained of the pharynx, which was inflamed and the walls covered with thick, tenacious mucus.

Temporary relief being obtained by the evacuation of the pus, he stated that he had always been robust and healthy, except that he had suffered for a number of years from rheumatism. The joints of the fingers and especially the feet were enlarged as is seen in long-standing cases, mobility of the articulations mentioned being much impaired, the metatarsal joints being rigid from the chronic changes. About once every year he would have an attack of articular rheumatism lasting for several weeks and always preceded by sore throat, which had not gone on to pus formation except in one instance previous to that time. The present attack commenced three days before his visit to the office and no other evidences of rheumatism had as yet developed. He was given an alkalin antiseptic solution to remove the mucus from the pharynx, and the salicylates were administered internally. Forty-eight hours after this treatment was instituted all pain and swelling had disappeared and the pharynx, except for a slight remaining congestion, was practically well. On the subsidence of the tonsillar and pharyngeal inflammation, an acute, violent attack of rheumatism in the previously affected joints made its appearance and continued for more than a week. One year later an identical attack again occurred, pus was evacuated from the tonsils, both being affected at this time, and the joints were again involved. The tonsillitis, or rather peritonsillar abscess, always preceded the articular symptoms and was relieved only by the administration of antirheumatic remedies.

In many cases of rheumatism the tonsils and pharynx present some evidence of the general diathesis, but it is not always as well marked as was seen in this patient. Usually suppuration of the peritonsillar tissues is not present as a part of the throat symptoms of the general affection, the pharynx merely showing evidences of slight congestion such as is observed in the familiar form of acute catarrhal pharyngitis. No definite group of symptoms or objective pharyngeal phenomena are seen when rheumatism affects the fibrous tissue of this portion of the upper respiratory tract. Every case varies, no two being alike, and from the local symptoms alone the diagnosis cannot be made, the general condition of the patient and the presence or history of rheumatism being essential to insure the successful treatment of the case.

A number of theories have been expressed as to the cause of the rheumatic diathesis, and until its etiology is clearly defined the laryngologist cannot give more than an incomplete picture of the affection as it manifests itself in the pharynx. To my mind it is definitely proven, however, that the rheumatic affection may be the cause of the tonsillitis, as we have seen in this case, or on the other hand articular rheumatism may result from infection through the tonsils. The latter statement includes, of course, the recognition of the bacterial origin of the disease. This has been well demonstrated in a case reported by Wagner,[1] in which the patient never had rheumatism previous to a severe attack of tonsillitis. The throat symptoms were followed by rheumatism of the knee, and bacteriologic investigation revealed the presence of the same micro-organism in both localities, thus proving the identity of the affection. The disease may primarily localize itself in the fibrous tissue of the pharynx with the formation of pus, the latter in the sequence of events being followed by the typical joint affection.

The symptoms of rheumatic pharyngitis and tonsillitis are not characteristic. The joint or muscle involvement may precede, accompany, or follow the throat affection in acute attacks and pain on swallowing may be intense. While the objective signs in no way explain the intense subjective symptoms, this disproportionate relationship is in a way characteristic in non-suppurative cases or where the pharynx alone is involved. Examination of the throat will show a moderate degree of congestion, some dryness of the mucous membrane, and a slight amount of capillary injection, the patient complaining of throat pain such as is produced only by a great degree of inflammation. In the majority of cases these peculiar subjective symptoms disappear without treatment in a few days, again making their appearance just as suddenly as they went away. This is more or less characteristic of the affection in the

[1] Read before the Northwestern Medical Society of Philadelphia, April 5, 1898.

[1] *New York Medical Journal*, No. 830, 1894.

early stages but other cases do not act in this manner, the inflammation increasing rapidly in intensity from the very outset and soon followed by a general explosion of the rheumatism; but not until the joints become involved is the nature of the disease ascertained.

Mercantius[1] has described what he considers a rather common group of symptoms referable to this portion of the respiratory tract under the name of acute rheumatismal pharyngomysitis. There is great pain on swallowing and only slight or not any redness of the pharyngeal mucous membrane. The pain becomes much intensified when the parts are subjected to pressure, but no other local or general subjective symptoms are present and articular rheumatism does not develop. The usual forms of treatment prove of no value, the symptoms only disappearing, and then very rapidly, when appropriate general antirheumatic medication is instituted, but local applications as in rheumatism of the joints are also of service. Following repeated attacks of acute rheumatic pharyngitis, or in patients with a marked rheumatic taint, a chronic pharyngitis may develop, in the latter instance without acute symptoms at any time. This chronic form of the affection is characterized by sore throat of mild severity which is more a feeling of local irritation than a definite pain, and this feeling is more or less constant, being accompanied by no objective signs except a slight thickening and restricted elasticity of the pharyngeal walls. The fibrous tissue alone is affected and inflammation of an acute character is never observed. It is usually seen after middle life, while no special age exerts any influence in the other varieties except as in rheumatism generally.

The diagnosis of the various forms of rheumatic pharyngitis must be based essentially on the history of the patient, the eccentric character of the subjective symptoms, the absence of special throat lesions, and the results of treatment. The protean character of the rheumatic manifestations, rendering a prompt diagnosis somewhat difficult, may be illustrated by the following case:

A. B., female, aged twenty-three years, was first seen January 19, 1898, complaining of irritation of the throat and the presence of a rash covering the entire cutaneous surface of the body. On examination the pharynx was found to be slightly sclerotic and the tonsils somewhat hypertrophied. Other than this nothing of special interest was found in the upper respiratory tract. The skin eruption consisted of macules varying in size from the head of a pin to a silver dollar. They were deep red in color, disappeared on pressure, and were irregularly round in shape. No subjective symptoms except a slight itching were present and the girl was otherwise apparently in fair health. She stated that seven weeks previous to that time she had had a severe attack of tonsillitis which confined her to the house for two weeks. At the end of that period the throat symptoms had practically disappeared, and on arising in the morning she found the skin eruption as described. Her physician treated the skin eruption for five weeks without making the least impression upon it, while the pharyngeal irritation still continued uninfluenced by medication.

When I saw the case the question naturally arose as to the cause of the apparent relation between the tonsillitis and the dermal eruption. From the subjective symptoms, and as a result of an examination of the throat and skin, it seemed impossible to make a diagnosis sufficiently accurate to allow of proper treatment. Further questioning elicited the fact that fourteen years previous she had had a severe attack of muscular rheumatism which confined her to bed for a number of weeks, and at irregular intervals since she had had slight attacks, but never of sufficient severity to incapacitate her from work. After a time the rheumatic attacks ceased completely, but she was subject to attacks of tonsillitis and pharyngitis, which never went on to pus formation, the last attack of the throat trouble, which was followed by the eruption, being worse than any she had experienced. Basing the diagnosis of rheumatism on the previous history, and using no local treatment whatever, but giving the salicylates and strychnin internally, the rheumatic nature of the affection was soon made evident. Within two days after this treatment was instituted the pharynx no longer troubled her, and within one week the skin eruption had entirely disappeared.

In all forms of rheumatic involvement of the oropharyngeal tissues, relapses are more or less frequent, usually at short intervals, and in a smaller proportion of cases a pharyngeal outbreak of the general affection makes its appearance at least once a year. The general treatment, with appropriate antirheumatic medicine, has been sufficiently pointed out in relating the history of the two cases, and on the salicylates alone can we depend to obtain favorable results. Local treatment of the throat is usually of little value but hot applications will sometimes prove helpful in acute cases. Pharyngeal massage to restore the tone of the parts may be tried in long-standing cases as an adjuvant to internal treatment. Electricity has been recommended and may prove of service in a few selected cases, both the galvanic and faradic currents being available.

[1] *Gazetta Medica di Torino*, 1892.

Ointment for Leprosy.—

℞ Ext. chelidonii, Airol, Resorcin } aa . . . . . ʒ iss
Lanolin . . . . . q. s. ad. ℥ ii.

M. Sig. External use.

WAR ARTICLES.

NEWS OF THE WEEK.

ONCE more the unlooked-for has occurred and the desperate dash of Admiral Cervera was the opportunity of Commodore Schley. This might well be called "The war of unexpected events," so rapidly are the conquests fairly forced upon our young but vigorous Navy.

Santiago de Cuba is not a place of importance to our Army or Navy, nor was it so considered until the cream of the Spanish Navy deliberately entrapped itself in the enclosed bay upon which the city is located; then its capture was necessary in order to secure a vantage-ground from which the fleet might be attacked by land forces while our vessels guarded the entrance to the bay. But again our plan went astray, for just as we waited with all confidence to hear the news of Santiago's capture after the two days of terrible fighting, the Spanish ships came in boldness or in desperation through the narrow inlet and in two hours were totally demolished.

The continued good health of our soldiers in Cuba is as unexpected as gratifying and yet we must not hurrah until we are out of the woods. True, the medical and surgical facilities and the arrangements for nursing the sick and wounded are admirable, considering the short time available for preparation, but over-confidence and a feeling that after all the dangers to be met were exaggerated, may be followed by a siege of disease which will overwhelm the entire hospital department.

Our men have not been in Cuba long enough for an epidemic of yellow fever to break out among them, but the danger of such a pestilence increases now with every day.

In the matter of diet the Spaniards in their plain living ordinarily have the advantage in warding off the diseases of a tropical climate. A Spanish soldier's rations, when he gets any at all, consist of one and one-half pounds of bread per day; all else he must buy himself. If he can get a little oil and an onion, with the omnipresent cigarette, he has no complaint to make, but if he can buy, beg, borrow, or steal a pint of light wine he is utterly happy.

Exact statistics are not as yet available, but observation so far tends to show that owing to the use of the modern rifles the instant deaths amount to nearly twenty-five per cent. of the total number of men hit by bullets, as against four and one-half per cent. during the war of 1861-64. But a brighter story comes from the hospitals where the wounded men, treated by modern methods, are recovering in greater proportions than the most sanguine dared to hope.

SUPERSTITIONS OF THE PHILIPPINOS; DANGER OF SNAKE-BITES; TAXES; NATIONAL LOVE OF GAMING.

[From Our Special Correspondent.]

WITH ADMIRAL DEWEY'S SQUADRON, OFF MANILA, PHILIPPINE ISLANDS, May 22, 1898.

IT is just three weeks to-day since the great battle, and the quiet of an Anglo-Saxon Sunday rests over the fleet. I understand the Spaniards here are boasting that a squadron of Spanish warships is on the way to drive Dewey from the Philippines, but little uneasiness is felt by the Americans as to the truth of this rumor. There is, nevertheless, some anxiety about the non-arrival of reinforcements, and speculation whether Aguinaldo, the rebel leader, who lately came on the "McCullough" from Hong Kong, will be of any real assistance to us. What the action of the rebels will be is uncertain. In the interior the natives are ruled principally by the monks, who are only a little less greedy for the Church than the Spanish officials are for themselves, and it is generally believed that the Islanders would be glad to be under American rule, though the Spanish priests represent the Americans as heretics, and as a people practically without religion, who forbid baptism and the religious solemnization of marriage.

There is a revolutionary society here which the Spanish call the "Free Masons," but whether it has anything to do with real Masonry or not I have been unable to learn. The priests denounce this society, and it is to be remembered that it was a priest who notified the governor of the plot among the members of this order a number of years ago to massacre the Spanish officials and priests, which had been communicated to him in the confessional by the wife of Pedro Roxas, one of the supporters of the revolution. Roxas, who was one of the wealthiest planters in the islands, after his property had been confiscated, was eventually shot. Horrible stories are told about the treatment by the natives of Spaniards who fell into their hands at that time. Many of the monks were slaughtered, some of them being dismembered a limb a day, while others were burned alive. It is clear that our proposed allies will have to be very gingerly dealt with, for they are ignorant and superstitious and have proved themselves as cruel as their Spanish masters.

A physician who has spent many years in these islands gave me an interesting account of some of the superstitions of the natives. They believe in witches and in evil spirits, and some of the means taken to exorcise these demons are violent in the extreme. For example, evil spirits are believed to hover about a pregnant woman waiting to snatch the soul of the unborn infant; and when labor com-

mences the *mabuling-hilot*, or midwife, is summoned in haste, for, as the midwife is supposed to be deeply learned in ways of dispersing witches, a doctor seldom assists at the *accouchement* of a native female. In case the labor is prolonged it is believed that evil spirits are holding back the child, and the midwife procures some gunpowder which is exploded close to the suffering woman's head, this being the approved method of driving away the evil influences supposed to be at work. When the child thus bewitched is finally born, it is placed on a pillow in an open door or window so that the air may facilitate the escape of the bad spirits, which are exorcised by burning three tapers on the face of the child, one on each cheek and the other on the chin. Sometimes the youngster receives three burns, but the ceremony generally goes off without accident. The priests do all they can to discourage these practices, but their efforts are of little avail. The natives who are converted to Christianity change their evil spirits for good ones and believe that an angel instead of a witch assists at the birth of every infant and follows it through life. Some sort of supernatural guardian they insist on having, so the priests encourage the belief in the angel. When anything is stolen a witch is called upon to find it, and no more wonderful stories are told of the discoveries of St. Anthony than the natives tell of the witches' aptness in detecting robbers.

Any one having much to do with the various primitive races is surprised at the similarity existing between their superstitions and traditions. The incantations of the natives of India and Asia are paralleled in the Philippines, and the witches are said to hold *sabbat* here as well as elsewhere. The belief that certain sounds have power over non-human presences seems to be universal, and the invocations used by the Philippine Islanders are said to be preserved in secret manuscripts, as are those of the peoples above mentioned. Another parallel is found in the tradition in regard to the formation of these islands. The natives, who of course originally knew nothing of the outside world, say that ages ago a giant bore the earth on his shoulders, but after a while he got so tired that he dropped it into the sea, wherein it sank so deep that only the mountains were above the water, these mountains being the islands they inhabit. The giant is, of course, the same as the Atlas of Greek mythology.

There is a greater proportion of quack doctors in the Philippines than in America, and the Chinese disciples of Esculapius have great influence. They generally use only vegetable medicaments, and in the cure of tropical diseases these solemn-looking Orientals have better success than their European rivals. They have a wonderful cure for the itch and the other skin diseases so common among the Islanders. On a previous visit to Manila I made the acquaintance of one of these Chinese doctors, and learned something of his method of treating certain diseases. Though he had been to Europe, he apparently knew nothing of surgery, and his remedies were very simple, quinin, opium, mercury, arsenic, and some mysterious Chinese drug, the name of which I have forgotten, being his principal curative agents. I understood that he never used leeches, although they are very plentiful throughout the islands. He claimed to have an infallible cure for pulmonary tuberculosis, which is very common here, and he was held in high esteem by his fellow practitioners on account of the many wonderful cures that he had effected.

The natives have a remedy for scorpion-bite which seems to be very efficacious. These bites cause a sharp, burning pain, and the part swells and becomes hard and white, but a cold application of crushed garlic relieves the pain almost instantly and reduces the swelling. The island abounds in poisonous snakes which are a real menace, the bites of several varieties almost always proving fatal. The most common symptoms of snake-bite are profound exhaustion, fever, and intermittent pulse, nausea, and great rapidity of respiration; the speech is indistinct and the pupils dilated. Snake-bite is so common in the Philippines that the American troops, if they come here, ought to be instructed how to apply ligatures to a bitten limb, and how to treat the victims of the deadly *daghong-palay*. From a considerable experience in this and similar climates, I am inclined to believe that our troops will suffer much annoyance from sore feet, for in the tropics, especially during the wet season, all leather shoes shrink badly, while the feet swell and become very tender. This annoyance may be obviated to a great extent by bathing the feet frequently, twice a day being none too often, and those who take the trouble to do this will be amply repaid in comfort.

As a rule the native women are very cleanly, many of them taking exquisite care of their persons. The younger ones are pretty and coquettish; they do not wear corsets, and in their native costume look very supple, feminine, and picturesque. There is more than the usual percentage of illegitimate children born in Luzon. One of the principal causes of this is the old custom of the prospective bridegroom's serving for a longer or shorter period in the household of the bride's parent, somewhat as Jacob served for Rachel. The priests do what they can to discourage these irregularities, but with only moderate success. Getting married is rather an expensive luxury here, as the Government demands a

tax for almost everything, from carrying on business to cutting down a tree. The tax on an ordinary carriage amounts to a sum equal to $12 a year, or $3 for each wheel, and the horse-tax is $4. There is a regulation requiring forty-days' forced labor for the public from each man during every year; there is also a poll-tax, an income-tax, innumerable stamp-taxes, excessive license fees, and extortionate fines The income-tax is often collected from people who have no settled income, and the system of fines is both arbitrary and dishonest. How this legalized robbery is enforced during the present condition of things at Manila I have been unable to learn. According to the latest information, meat is now between $2 and $3 a pound, and the other necessaries of life are in proportion. Business has been partially resumed in Binondo, on the other side of the Pasig, though it is evident that a state of panic exists throughout the city, for many of the foreign subjects are taking refuge at Cavité.

Judging from the character and disposition of the natives in Manila, they are probably spending these exciting times in cock-fighting and other amusements of a similar nature. The cock-fight is to the Philippine Islanders all that the horse-race is to the Americans, and considerably more. The owner of a fine game-cock takes a greater pride in it than in wife or family, and if the bird becomes ill, or is badly wounded in a fight, he is taken to the cock doctor with all speed. These functionaries are important personages, and they have receiving-houses where injured birds are treated. To staunch the flow of blood the wounds of the petted fowls are dressed with a mixture made from tobacco leaves and cocoanut-wine. It is no uncommon sight to see a native going to church with his favorite game-cock under his arm, and when he reaches the church he fastens the bird to a bamboo plug outside, goes in and listens awhile to the mass, then hurries back to his pet. Gaming of all kinds is the special delight of these people, and it would be interesting to know whether the great national lottery, which exists here the same as in Cuba, is as well patronized now as it was in times of peace. Despite the daily increasing evidences of famine within the city I doubt if anything will separate them from their love of gambling which will be found, literally their "ruling passion strong in death."

During a period of about ten years spent in various Oriental countries I have never seen such gorgeous sunsets as we have witnessed while lying at anchor in this beautiful bay, but the boys on the ships declare that the reddest sunset is gray and colorless compared with the glow which will light the sky when we finally bombard Manila.

NOTES ON THE AMBULANCE COMPANY.

By HENRY I. RAYMOND, M.D.,
MAJOR AND SURGEON, UNITED STATES VOLUNTEERS.

THE ambulance company is as yet an undeveloped factor in the medical department of the United States Army in the field. It is still, as it were, in the experimental stage, but bids fair to become in a short time a valuable adjunct to the division hospital in camp, and an indispensable attendant upon the army on the march. It is, indeed, the flying hospital, and when the army is on the move, and the division hospital, with its canvas and its medical and surgical armamentarium tucked away in its seventeen four-mule army transport wagons, twenty-five Red Cross ambulances, with their litter service and their readily accessible supplies both for subsistence and treatment of the sick and wounded, constitute the hospital on wheels officially designated "an ambulance company."

An army corps has for its three divisions a division hospital and an ambulance company, besides a reserve ambulance company for corps headquarters. A division, therefore, of a strength of more than 10,000 men, constituted of three brigades, and each brigade of three regiments, has its own specially designated ambulance service, consisting in our army of 104 privates, 7 stewards, 3 acting stewards, 6 medical officers (one commanding), and 1 line officer as acting assistant-quartermaster. The wheel transportation consists of twenty-five two- or four-mule ambulances, and three, four, or six-mule wagons, the latter for carrying tentage and field-supplies for the train.

The writer being ordered from the transport "Saratoga" in Tampa Bay to report at Chickamauga Park, Ga., for duty with the volunteers, was assigned by General Ward to command the ambulance company, 2d Division, 3d Corps. This company was not yet in existence, but was recruited in the following manner: Each of the regiments of the division (one regiment short) was called upon for its quota of thirty men, and to these were added thirty privates of the hospital corps who had been enlisted as such for a period of three years when the 1st and 2nd Arkansas regiments were mobilized at their State rendezvous. This aggregate of 270 men was assigned to the Division Hospital, which organization selected their allowance of 93 privates (3 of whom were to be appointed acting hospital stewards), and the balance, 177 in number, were assigned to duty with the ambulance company, the surplusage, or difference, between 104 (the recognized strength of the privates of the ambulance company, and 177 being intended for transfer to the reserve ambulance company after preliminary in-

struction and training in their duties as litter-bearers, etc.

The internal economy of an ambulance company is similar to that of a light battery of artillery. This ambulance company has been subdivided into three brigade sections, each under command of a commissioned officer, and further subdivided into regimental detachments, each in charge of a reliable non-commissioned officer, who is answerable to his brigade section commander, and the latter in turn to the commanding officer of the company. From this brigade organization it follows that if any brigade of the fighting force becomes of necessity separated from its division, the corresponding brigade-section of the ambulance company can be temporarily detached to accompany the separated brigade.

Perhaps the most systematic writer upon the organization and duties of ambulance companies in war service is Surgeon-Major Evatt of the English Army Medical Staff. His lucid and elaborate brochure, based upon his experiences as commander of a bearer or ambulance company in the Saukin expedition, 1885, and during the Afghan campaigns of the latter years of the same decade, is an extremely suggestive production and of such rarity that but one copy is thought to be extant in this country, that copy being in the possession of Lieutenant-Colonel Van R. Hoff, Surgeon, United States Volunteers, Chief Surgeon, 3rd Army Corps.

THE SOLDIER AND SAILOR IN ACTIVE SERVICE IN TIME OF WAR.[1]

By S. W. ABBOTT, M.D.,
OF BOSTON;
ASSISTANT-SURGEON, UNITED STATES NAVY, 1861-64; SURGEON, FIRST MASSACHUSETTS CAVALRY, 1864-65.

THIRTY-SEVEN years ago this month of May, I was returning home one evening from an evening school in my native town, when I learned that a public meeting was in progress in aid of the town military company which was just being recruited for three-months' service at the front. The meeting was mainly made up of the older citizens of the town, men of forty to seventy years of age, who were enthusiastically engaged in subscribing money for the fitting out of the company. Each citizen as he named the amount which he desired to give was greeted with rousing cheers. Little did they think that the war would last four long years and would snatch from them forever many of the best young men of the town.

I sat upon the rear seat of the hall and could not help catching the enthusiasm of the hour, and inwardly resolved to seize the first opportunity to join the boys. The opportunity came very soon for every one who desired to go. Whenever I see, at this day, a body of active, vigorous young men ready to leave home and the fireside to brave the hardships, the rigorous discipline, the dangers, and the risks of the camp and the forecastle I cannot help feeling a renewal of that old-time enthusiasm of 1861 and saying to them "God speed." At the same time I also feel that a timely warning with reference to some of the conditions which are likely to surround the young recruit may, perhaps, prove of some service to him in the future.

In order to state with any degree of accuracy the actual conditions of the soldier or the sailor in time of war, we may very properly divide the subject into certain topics and consider them separately. I shall present only those points which appear to be especially worthy of consideration as affecting the health of the young recruit while in active service. These are: (1) His food and drinks; (2) his clothing; (3) his shelter; (4) the age and size of the recruit, with principal disqualifying conditions; (5) special dangers and diseases to which he is subject and how to avoid them.

Food.—The food of the soldier in time of active service is determined by the best authorities upon the subject of food both as to its quality and quantity. In time of active service during war the food of the soldier differs essentially from that of the soldier in barracks in time of peace. The difference is largely due to the fact that the food of the soldier constitutes a considerable addition to the weight of the equipment which he carries, and every possible means is taken to reduce this weight by the use of such foods as are nearly absolutely free from water, which constitutes a very large percentage of all ordinary foods. The soldier in quarters receives good fresh bread cooked in the barracks or purchased for his use. Several times a week he also has fresh meat and fresh vegetables. Now all these articles contain a considerable quantity of water which is not essential to their value as nutrients. The potato, for example, has over seventy per cent. of water, and, when on the march, this would constitute a burden. Hence all such foods are discarded and the use of dry foods, or such as contain the greatest amount of nutriment to the least absolute weight, are employed.

The actual food of the soldier during the Civil War consisted mainly of salt pork, hardtack (or biscuit), and coffee. These three were the food of the army with such additions as could occasionally be had from the sutler. Butter was a luxury. Condensed milk was always in demand, and fresh beef was occasionally furnished when animals could be had for slaughter. This coarse but substantial fare was

[1] Abstract of an address before the Students of the Massachusetts Institute of Technology, Boston.

nutritious, but when long continued was liable to produce scurvy in consequence of the absence of fresh acid foods. A good mug of coffee twice a day served for the beverage of the soldier. In stating that the soldier, in time of war, has three meals a day I refer only to those quiet intervals when he is in camp and not on the march or making an extensive raid into the enemy's country. Often does the soldier go without food for a whole day and sometimes for two or more days when occasion requires it. Then hunger demands that he shall eat the first thing which may present itself which is at all eatable.

I recall very well a skirmish in September, 1864, when my regiment was drawn up in a cornfield in southern Virginia where the men were all partaking of the green corn without cooking it, pulling it from the stalks and eating it rapidly to satisfy their hunger. Upon each of these hills of corn there was growing a vine having large and fine-appearing fruit, the fruit of the passion-flower. Major Sargent, who was in command, being a good botanist, stated his belief that those must have been planted to serve as a food-supply, so we partook of them freely and without harm.

Sweet potatoes were dug from the fields; pigs, chickens, and other animals often helped to vary the food-supply; but, at the best, it was a very crude and unsatisfactory cuisine when compared with the hotel, boarding-house, or college restaurant, or what is far better, the domestic table of a New England home.

Drinks.—With reference to the drinks of a soldier, there is quite as much to be said as with regard to his food. While water enters more or less into the composition of nearly every known article of food or drink to a greater or less degree, and is also by far the most important of all beverages, it is also liable to become a source of serious danger in consequence of its contamination. With reference to alcohol, the best advice that can possibly be given is to let all alcoholic liquors absolutely alone. The best authorities, such as Dr. Parkes of the British Army and Dr. Woodhull of the United States Army agree in condemning alcohol as harmful to the service. One of these writers says: "The absence of liquor means a clear guard-house. Abundant liquor means a heavy sick-list, a large guard report, and a feeling of doubt as to the command." Spirits neither protect the soldier from cold, heat, nor malaria, and their use is productive of tenfold more harm than good. The abolition of the navy whisky-ration in August, 1862, was followed by better discipline, better order, and better health.

Upon the march the soldier usually has an opportunity to fill his canteen from running brooks by the roadside or at the various wells which are usually to be found in the neighborhood of farm-houses and cottages. It is always desirable to be on the lookout that such wells and streams are not in the immediate neighborhood of sources which always exist in the rear or near to such farm-houses and are liable by their proximity to contaminate these sources of water. As a general rule, water which comes out of fields, pastures, and territory generally unoccupied by human habitations is safe to drink, notwithstanding the fact that it may be considerably colored and less pleasing to the eye than that which is pumped from the ground in the more immediate neighborhood of villages. When troops go into camp for winter quarters it is customary to dig or drive wells at the end of the company streets, one or more for each regiment, the number depending largely on the facility of reaching water and the character of the soil. Such wells are usually safe provided they are kept from contamination. The principal beverage of the soldier in camp other than water is coffee. Its small bulk and easy method of preparation make it a desirable addition to the ration. It was invariably of good quality, so good, in fact, that Confederate soldiers were always on the lookout to exchange any commodities which they had while on picket duty for this article across the lines. I have dwelt somewhat at length upon this subject for the reason that, in my opinion, we were not then inclined to credit to polluted water so great a share in the causation of disease as actually belonged to it.

Clothing.—The clothing of the soldier is furnished by the Government and needs but little comment. As a general rule it may be said that closely woven woolen cloth forms the best material for the clothing of the soldier all the year round, in hot as well as in cold climates. It should be as light in weight as is consistent with durability. The whole weight including overcoat should not be more than fifteen pounds. One good blanket and a rubber poncho should form a part of the equipment of every soldier. This poncho is a most useful article because having a slit to admit the head it forms a good waterproof garment and may be used as a shelter against the rain or as a part of a tent. When spread upon the ground it serves as a temporary dining-table during an active campaign. The weight of the clothing and equipment of each soldier in active service is a matter of importance and in our service is distributed about as follows:

Clothing worn, 10 pounds; arms and ammunition (50 rounds), 19 pounds; camping apparatus, 6 pounds; water and rations, 3½ pounds; blanket, 5 pounds; shelter, 2 pounds; shirts, socks, and small articles, 4 pounds; total, 49½ pounds. This is a minimum. The soldier may, in certain branches of

the service, carry in addition a poncho, ax, hatchet and sling, spade, shovel, pickaxe, and frying-pan.

All the foregoing weights of articles are liable to increase; for example, three-days' water and rations increase the weight of food to nine or ten pounds, and every additional ounce of weight to be carried increases the fatigue of the soldier. It is customary to divide certain articles among several men, for example, such light cooking utensils as are carried on the march.

The Shoe.—One of the most important items in the clothing of the soldier, especially of the infantryman, is his shoe. A man who is liable to severe corns, bunions, tender feet, or weak ankles ought not to enlist as an infantry soldier. A good shoe should have a broad and low heel; it should not be made with narrow or pointed toes, and should not be too tight, since allowance must be made for considerable swelling of the feet in long and severe marches.

Shelter.—It is a prevalent belief that soldiers are well housed in wall tents or tents with flies and so constructed as to shelter completely from the severity of the weather. This, however, applies in active service only to the staff and line officers, since the carriage of so large a quantity of sheltering material would impose a great burden upon the quartermaster's department and interfere with the efficiency of the army in time of war.

Soon after the organization of the Union Army in 1861, it was found best to require each soldier to bear his own individual share in carrying his shelter, and a plan was devised by which each man carried one piece of tent cloth, five and one-half feet square, having buttons upon three sides. By this arrangement two men could fasten their two pieces together and make a temporary shelter for themselves. It was hardly long enough to cover each man completely. The weight of this shelter was only two pounds for each piece. It had the advantage of indefinite multiplication by means of the buttons, and when in winter quarters several pieces thus fastened together served for the roofs of the log houses then in use.

While on the march in good weather, the ground usually served for a bed, a light covering of leaves or pine boughs being placed on the ground under the shelter. In winter quarters it was customary to build log houses sufficiently large to accommodate from four to eight men in each, either with or without a flooring of boards taken from some abandoned house in the neighborhood. A fireplace of brick or stone was often made at one end and plastered with mud.

The position of the sailor is very different, each man having his own hammock, which is swung between decks and taken down in the daytime, and in the old wooden men-of-war these hammocks were carefully and neatly rolled up and taken on deck and stored in the nettings, where they afforded a good protection against the fire of small arms.

The Age of the Soldier.—The age at which the most effective service is rendered by the soldier may be stated as twenty-five years. The average age of the soldier in the Civil War was somewhat less, probably about twenty-three or twenty-four years. There ought to be a minimum age limit of twenty years, since those who enlist at seventeen or eighteen are not old enough nor well developed enough to endure the rigors of active campaigning. As I now recall the experience of 1861–'65, the surgeon's sick-list was largely made up of the young men or boys under twenty years of age who had not yet been accustomed to leave the comforts of the fireside and the home to engage in active life service. Men, too, who were of extremely light weight or were less than five feet in height did not usually endure hardship well. Parkes says: "To send young lads of eighteen or twenty into the field is not only a lamentable waste of material, but is positive cruelty." Napoleon said: "I must have full-grown men. Boys only serve to strew the roadside and fill the hospitals." The most efficient armies have been those in which the youngest soldiers were not less than twenty-two years of age. It would, however, be entirely proper to enlist young men of eighteen or nineteen, provided that a judicious discrimination could be given, as to the amount and quality of the work to be required of them.

So great is the difference in the mortality of soldiers and civilians that the best life-insurance companies to-day either charge extra rates upon the lives of soldiers or reject them altogether. I have said that the number who die of disease during the war is greater than those who die of wounds, since the Gettysburgs and Chancellorvilles and the Waterloos do not occur every day, but men are taken ill daily from various causes in every campaign and sometimes in large numbers. At the battle of Waterloo and the contributory battles of Quatre Bras, and Ligny, and Wavre on the 16th, 17th, and 18th of June, 1815, it is stated that 60,000 men were killed out of a total number engaged of 300,000. At the battle of Gettysburg, which lasted three days, the surgeons cared for nearly 30,000 men during the days which followed the battle, of whom nearly 7000 were Confederate wounded who were left upon the field. These numbers do not include the Confederate wounded or the wounded Union prisoners whom they took away with them on their retreat, and yet even these numbers are small

when compared with those who were disabled by sickness.

I do not think that young men who are contemplating enlistment sufficiently appreciate the fact that the risks which they run of becoming ill or even of losing life are at least eight or ten times as great as those which are encountered in the ordinary walks of life, and yet the history of the Civil War and the records of the Surgeon-General's office show that this is a fact. It is also true that the deaths from disease were far greater in number than those which resulted from wounds. The deaths from gunshot wounds upon the Union side alone in the Civil War were, in round numbers, 93,000. Those which were due to disease were estimated at 186,000 or twice as many. Those which were due to typhoid fever and diarrhea were 78,000 or nearly as many as those which were due to wounds. As a matter of fact the risk which each man ran of contracting typhoid fever in the Civil War was fifty times as great as he would have incurred if he had staid at home. Stating this in a different manner, out of every 65 men[1] 1 man was killed in action, 1 out of every 13 men died of disease and of unknown causes, and 1 out of every 30 died of typhoid fever and diarrhea. Such a mortality as this in any population in civil life would be reckoned very properly as a most appalling epidemic.

As an illustration of the losses in the Naval Service, the ship's company of the monitor "Catskill" now serving as defence for Gloucester harbor, numbered eighty all told, officers and men. During the six months ending with September 30, 1863, twenty-seven of these were either killed, wounded, or sent away from the ship in consequence of disability from disease.

There are certain ailments to which the soldier is liable in active service which with due care may be avoided; and first and most common are disturbances of the digestive organs. These are usually due to the action of some disturbing element in the diet combined with the influence of hot weather, and upon their occurrence it is desirable that the recruit should at once consult the medical officer of the command for such advice as he may give.

Another very common form of illness is malarial fever, for which the sovereign remedy is quinin. In consequence of a singular prejudice an unfounded fear has arisen to the effect that this remedy proves harmful. Under adequate advice as to the mode of its administration there need be no such fear. Having taken it in very large doses for many days in succession, I can say that it had no harmful effect whatever and I know this is the general testimony of those who have used it. Should the recruit be called upon to visit a malarious district, it is desirable to be stationed upon elevated ground and upon ground that is dry and porous and not marshy and damp. In such districts exposure to the damp air of the night should be avoided.

Sunstroke is a not uncommon incident to which soldiers are necessarily exposed. It may usually be avoided by keeping the head cool; moistened paper or leaves worn in the hat act as a preventive, and heavy work in extreme heat should be avoided.

Rupture is one of the accidents due to severe straining, lifting, or muscular exertion, and is actually present in from five to ten per cent. of men who have reached the age of forty-five. Should it take place in one who has never had a rupture a surgeon should be at once consulted and advice taken as to the best method of treating it. Severe rupture is usually considered as a disqualifying condition in a new recruit.

Scurvy is a disease which is not common among well-fed troops, but does occur when soldiers have been fed for a long period upon food in which fresh vegetables have been largely excluded. It was quite common in the Army of the Potomac in the last winter of the war. It used to be one of the serious causes of ill health among sailors, but in the present age of steam and consequently of short voyages, it is now of much more rare occurrence. A liberal allowance of lemons, lime juice, and fresh vegetables usually restores the victim to good health.

Personal Cleanliness.—Nothing is more essential to the well-being as well as the comfort of the soldier than absolute cleanliness in every particular. Frequent bathing and the liberal use of soap are even more necessary to the soldier than to the civilian. Some of the minor forms of disease which are due to the presence of parasites are very common in camp life. It is no disgrace to have contracted any of these ailments, but it is a disgrace not to get rid of them at once, and to take every precaution to prevent their recurrence. The young soldier must bear in mind that the luxuries and comforts of home life cannot be taken into camp, and that in this respect the camp with its rigorous discipline, its absence of the many conveniences that make one's home attractive, is yet a teacher, severe though it is, and one which will doubtless rarely fail to give young men a measure of independence and self-reliance which must, in the end, prove more valuable than any other sort of training.

The soldier's life in active service is one of hardships. He must necessarily learn to look out for himself and not to depend upon others. Very often

[1] See Scribner's "Campaigns of the Civil War." Phisterer's volume, pp. 70–71.

he may be placed in a position, as when he is upon picket duty or otherwise separated from his command, when he must cook his own food, and must under all circumstances look out for such repairs of his clothing and equipments as may from time to time be necessary. He is deprived of the refining influences of home life, it is true, but it is only the professional soldier of the regular service upon whom this should have a lasting influence, since the volunteer is constantly reminded of the close of the campaign or of the occasional furlough which will return him to the fireside or the home again.

CLINICAL MEMORANDUM.

TUBERCULAR MENINGITIS PRECEDED BY ACRODYNIC ERYTHEMA.

By JOHN A. BARKER, M D.,
OF PITTSBURG, PA.

ROBERT J., aged four and one-half years, was an exceptionally intelligent boy for his age. His mother died of pulmonary tuberculosis when he was a babe. His father is a stout, healthy man, who informs me that there is no history of tuberculosis or of any hereditary diseases except that of the mother. This boy had none of the diseases of childhood, but when about one year of age he was afflicted with spinal disease, the true nature of which we are unable to ascertain, which resulted in partial paralysis of the left leg, necessitating the wearing of an apparatus to support the member. He was presented at my office September 1st (last) to be treated for nasal catarrh. A careful examination revealed enlarged and swollen turbinated bodies of both nares which encroached upon the septum, and completely occluding the chambers. There was also a copious discharge of mucus. All the superficial lymphatic glands were enlarged to twice their normal size; the skin was pale, dry, and inelastic, the muscles were lacking in tone, and there were clubbed nails. The tongue was covered with a whitish fur, the teeth were nearly all decayed to the level of the gums, the breath was offensive, appetite capricious, digestion impaired, and there was constipation alternating with diarrhea. Urine negative except oxalates and phosphates in abundance. A tympanitic note was elicited over the apex of the left lung, and the breathing, excluding the puerile type, was tense and high-pitched, but there were no râles, cough, or expectoration. The voice was husky, and the respiratory movements were shallow and hurried. The heart's action was feeble, rapid, and irregular, and the pulse soft, compressible, and intermittent. The blood-count showed 2,900,000 per centimeter; hemoglobin, forty-five per cent. He was given a few small doses of the mild chlorid of mercury, and on the following day was ordered syrup of the iodid of iron and a ten-per-cent. solution of hydrozone as a local application for the nasal catarrh. A nutritious diet and plenty of fresh air were enjoined.

He returned September 14th. The blood-count then showed 3,000,000 per centimeter; hemoglobin, fifty per cent. The discharge from the nose had considerably diminished, nares were patulous, and the appetite and digestion were decidedly improved. He was directed to continue the treatment. I did not see him again until October 1st. He had been exposed the day previous to the first chilly winds of the season, which induced a relapse of his trouble, but in a more aggravated form, for the submaxillary glands were enormously swollen and tender; absence of voice and hearing, but no elevation of temperature. A few doses of the citrate of magnesia were ordered. The iron was discontinued, and small doses of Fowler's solution, in combination with potassium iodid, were given instead. On my next visit, October 2d, his left foot and leg were swollen, painful, and covered with a scarlatiniform rash, which in a short time changed to a blue color. The patient screamed with pain, which was greatly exaggerated on the slightest manipulation. Chloroform liniment and dry heat were applied to the affected member, and antikamnia was administered. On my return in the evening I was surprised to find that the right leg had become affected, and not a trace of the previously existing condition of the left leg was demonstrable. All the symptoms were exaggerated, especially the subjective symptom of pain, which could well be compared to the vivid picture of a crisis in locomotor ataxia, and which was but slightly ameliorated by administration of morphin sulphate hypodermatically.

On October 3rd the pain, swelling, and rash had subsided in the right leg and foot, and had moved to the left side of the body. October 4th. The left side of body normal and right side affected. October 5th. The right side of body normal and left arm attacked. October 6th. The right arm similarly affected and left arm normal. October 7th. Face and both ears attacked, the ears assuming a darkish-blue color, and the palpebra and ocular conjunctiva were hyperemic, and there was slight ptosis. No anesthesia or hyperesthesia was demonstrable. After these phenomena had repeated themselves a few times with provoking regularity, they finally reached the right ear, which assumed a blackish-blue color and simulated a gangrenous process. Sloughing, happily, did not occur, which, we believe, was prevented by the timely and frequent application of warmed ichthyo-lanolin ointment and dry heat, the latter being applied by means of a heated smoothing-iron, held a few inches from the ear. So intense was the pain that the patient had to be held while the light flannel cloth, upon which was placed the ointment, was being placed over the ear. I mention this because it is a happy way of applying medicaments to painful parts. The right ear remained in this condition for four days, when all the symptoms began gradually to subside, and by October 18th the ear had regained its normal shape and color, and, on the whole, the indications pointed toward a favorable termination. But, on October 22d, he had several attacks of vomiting, and, at the same time, complained of pain over the frontal sinuses and partial loss of eyesight. The pupils were equal and responded to light, but not to accommodation. An ophthalmic examination revealed hyperemia of the disks

and concentric contraction of the visual field; there was also a convergent strabismus. October 23d. The condition, except for attacks of vomiting, became more marked. Cerebral sedatives in the form of bromids were now administered and other agents discontinued. October 24th. Vomiting ceased, and there were present amaurosis, complete deafness, and clonic spasms of left leg and arm. October 25th. Complete left hemiplegia and clonic convulsions of right arm and leg. October 26th. A general convulsion, followed by coma; temperature, 102° F.; pulse, 65; respiration, 14. October 27th and 28th. No convulsions and semi-coma; the patient was able to take some nourishment and to communicate with those about him, but in a rambling, incoherent manner. October 29th, 30th, and 31st. The condition remained the same except the temperature, which was one degree lower. November 1st. The patient was seized with several convulsions, followed by profound coma, and death ended the scene November 2nd.

In making a diagnosis of the erythema, erythema simplex, erysipelas, angioneurotic edema, and sclerema were all carefully considered and excluded. Points of interest are: (1) The peculiar mode of onset by being preceded by acrodynic erythema. (2) The patient was always cheerful and not irritable, as is usually the case. (3) The absence of the usual premonitory headache. (4) The regularity with which the erythema migrated, and its apparent disappearance at the beginning of the meningitis.

THERAPEUTIC NOTES.

Strychnin in Alcoholism.—FEDEROFF (*Rev. de Therap.*, June 1, 1898), who has employed strychnin in the treatment of twelve cases of alcoholism has noted the following results: (1) The catarrhal symptoms subside more rapidly than they do in the cases in which the patient is deprived of alcohol and submitted to a strict regimen. (2) The neurasthenic attacks are favorably influenced by the strychnin, and the insomnia, as far as it is dependent upon nervous causes, soon disappears, the strychnin acting better in this respect than the usual hypnotics. Sleep becomes normal at the end of five or six days. (3) The senseless anger and the irritability which characterize alcoholics progressively subside. (4) The depression of spirits gives way to a more tranquil state of mind and the patients become courageous. (5) Other morbid symptoms, particularly the migraine, also pass away. (6) Unfortunately, the chief symptom, the craving for drink, is not influenced to any marked degree. "So that," says the writer, "though one must acknowledge the good effect of strychnin upon the nervous phenomena of alcoholism, it cannot be spoken of as a specific for this disease."

Hydrotherapy of Round Ulcer of the Stomach.—WINTERNITZ (*Blat. f. klin. Hydrotherap.*, May, 1898): The form of a round ulcer of the stomach seems to show that the nervous system has a part in its development, as is the case with perforating ulcer of the plantar region. The object of hydrotheraphy in these conditions is to cause the spasms of the vessels of the mucous membrane of the stomach to disappear. For this purpose baths at 10° or 12° C. (50° to 54° F.), and of three- to five-minutes' duration are given, and applications of cold cloths upon the abdomen, or a cold-water coil upon the cardiac region. The symptoms which yield most easily to this treatment are cardialgia, and hematemesis. The ingestion of bits of ice is a dangerous treatment for hematemesis. It is better to introduce cold fluid into the rectum, a measure which according to the experience of the author will reduce the intragastric temperature, and produce an intense contraction of the gastric vessels. This contraction is only for a short time, but it will often continue long enough to stop the bleeding. To make it even more certain pieces of ice may be introduced into the rectum.

New Method of Treating Tuberculosis and Other Pulmonary Affections.—WASSILIEFF (*Klin. ther. Wochenschr.*, No. 22, 1898) has adopted a method of treating pulmonary diseases by static electricity which if it does not cure phthisis, at least comes very near it. The patient seated upon an insulated stool inhales for five or six minutes a discharge of electricity which is directed toward his mouth by the physician. At first the patient feels a dryness of the throat and giddiness. Sometimes the head breaks out in a light perspiration. At the end of six or eight treatments the expectoration diminishes, the sleep is improved, and the night-sweats disappear. In certain cases there is cicatrization of cavities. Non-tubercular catarrhal and hypostatic pulmonary troubles can be entirely cured in from two to eight weeks. The author has had more than four-years' experience with this method of treatment, and the statements which he makes in regard to it are based on the observation of a large number of cases. He does not believe that the good effects noted are due to ozone.

Pyramidon in Nervous Troubles.—LANDENHEIMER (*Ther. Monatshefte*, April, 1898) has experimented with pyramidon, a derivative of antipyrin, upon more than one hundred persons suffering from some disturbance of nervous function. The headaches which so often occur during convalescence from various psychoses, almost all yielded to pyramidon in doses of 10 or 15 grains. From one-half to two hours were required for the medicine to take full effect. In the rebellious headaches of alcoholism, pyramidon was given with equally good result, the effect of the drug lasting nearly or quite ten hours. In three cases of cerebral tumor the headache was also stopped, but the dose required at first was 24 grains three times a day. This amount was afterward reduced to 6 grains a day. Painful cramps in the limbs of alcoholic patients were benefited, and one patient who took, without satisfaction, for an infraorbital neuralgia, 120 grains of antifebrin daily, found that 30 to 40 grains of pyramidon taken at a single dose early in the morning would give complete relief for 24 hours. In no instance was any toxic symptom observed. The maximum amount prescribed was 45 grains daily, divided into three doses, and continued for ten days. The writer considers pyramidon

a specific for rheumatism, but this view does not seem to be very well supported even by his own experience.

Use of Antipyrin in Sciatica.—KUHN (*All. Med. Central. Zeitung*) recommends hypodermic injections of antipyrin in sciatica, but relief from pain will follow only the remedy comes in contact with the affected nerve. Several times a day an injection of an aqueous fifty-per-cent. solution is made along the course of the nerve, a little below the middle of a line joining the sciatic tuberosity and the great trochanter. The results obtained by this treatment have been rapid and lasting, varying, it is scarcely necessary to add, with the intensity of the affection.

Charred Straw in Surgery, Especially Military Surgery.—KIKUZI of the Imperial Japanese Army (*Georgia Jour. of Med. and Surg.*, June, 1898) claims the superiority of charred straw over gauze as a dressing in surgery, and especially in military surgery, since it can be quickly prepared anywhere at little or no cost. As the dust from the charred straw will easily sift through a layer or two of gauze, the neatest method of application is to keep the charred straw in loose gauze bags, which are separated from the wound by a couple of layers of gauze. The gauze may be washed and used again after sterilization if great economy is necessary. The advantage of this new surgical dressing are thus described by its originator:

1. The absorbent capacity of charred straw has been proved to be much greater than that of gauze.

2. Charred straw is ready for use everywhere, not alone in the Orient, and it is easily prepared in large quantities, which is not the case with gauze.

3. With regard to cost, charred straw has the advantage over gauze. An average dressing of the last-named material costs about 1.6 francs (about 31 cents), while a dressing of the same size of charred straw costs only about 0.1 centime (less than 0.02 of a cent).

4. Charred straw is ready for use immediately after having been burned; that is, it is easily disinfected, whilst the preparation of gauze and its disinfection is a complicated process.

5. There is no need of transporting charred straw, as it can be obtained everywhere.

6. In regard to its softness, elasticity, and general usefulness, it differs very little from gauze.

From a military point of view, it is of importance that the large storage-room required ordinarily for surgical dressings may be dispensed with, since, in time of war, the preparation of this material will be carried on wherever it may be required. This observation of the necessity of storage in time of peace, of transportation in time of war, and its cheapness, are three very important points in which charred straw is superior to gauze.

As a dressing for poor patients it can be fully commended for its cheapness.

Influence of Abdominal Massage upon the Secretion of the Gastric Juice.—REED (*Med. Press and Circular*, May 4, 1898) expressed his satisfaction with massage especially deeply administered (*petrissage*) in patients suffering from gastric disturbances with lack of sufficient gastric juice or lack of muscular power. Massage increases the tonicity of the muscles of the exterior abdominal wall, as well as that of the muscles of the stomach and intestines, and it has besides an undoubted effect upon the glandular action of these organs. In some cases of chronic gastric catarrh the amount of free hydrochloric acid was finally restored under an energetic treatment by massage and galvanism, together with the administration of pepsin and hydrochloric acid for long periods—six months or less—with lavage for a shorter period. The conditions under which massage of the abdomen has been found in the writer's experience particularly useful are: (1) Chronic gastritis in all its forms excepting those accompanied by hyperchlorhydria. (2) Anacidity or subacidity, except when dependent upon acute gastritis or carcinoma. (3) Gastrectasia, not dependent on cancer. (4) Atonic conditions of the stomach walls, whether progressed to the stage of dilatation or not. (5) Displacements of the various abdominal organs including: (*a*) Gastroptosis; (*b*) nephroptosis, except in cases where the displaced kidney has become excessively tender on pressure; (*c*) enteroptosis. (6) Chronic intestinal catarrh, not complicated by deep ulceration. (7) Dilatation of the intestines. (8) Constipation from unknown causes. In many such cases massage often succeeds. (9) In a group of symptoms which comprise especially tenderness over a region three or four inches in diameter including the umbilicus as its center and a marked pulsation of the abdominal aorta in the entire epigastric region. These symptoms have been assumed to denote congestion of the solar-plexus. They are often met with in practice and may be the result of auto-infection from the gastro-intestinal tract. They are usually benefited by gentle kneading of the abdomen in connection with careful attention to diet. The following are the principal contraindictions for massage of the abdomen: (1) Ulceration in any part of the stomach or intestines. (2) Cancer of any of the abdominal organs. (3) Acute inflammation in any part of the gastro-intestinal tract. (4) Hyperchlorhydria. (5) Prolapsed kidneys which are acutely sensitive to palpation. (6) Aneurism of any of the abdominal or thoracic arteries. (7) During the menstrual period, when the flow is excessive or when there is a tendency to menorrhagia. (8) In fatty degeneration or marked dilatation of the heart and advanced phthisis, especially with a tendency to hemoptysis, abdominal massage should be practised—if at all—with much care and gentleness.

Carbonate of Creosote in Pulmonary Tuberculosis.—Gram of Copenhagen has found rapid and marked improvement of the pulmonary symptoms and of the general condition to follow the administration of large doses of this drug. Beginning with a single daily dose of 30 minims after the mid-day meal he advances to 30 minims three times a day, and never exceeds 90 minims three times a day. He gives preference to the pill form as follows.

℞ Creosoti carb. . . . . ʒ iiss
Magnesiæ . . . . . ʒ ss
Pulv. glycyrrhizæ . . . . . ʒ iii.

M. Ft. pil. No. C. Sig. To be taken after meals in number as directed.

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A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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Address the Editor: J. RIDDLE GOFFE, M.D.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK.

Subscription Price, including postage in U. S. and Canada.

PER ANNUM IN ADVANCE	$4.00
SINGLE COPIES	.10
WITH THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, PER ANNUM	7.50

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LEA BROTHERS & CO.,
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AND Nos. 706, 708 & 710 SANSOM ST., PHILADELPHIA.

SATURDAY, JULY 16, 1898.

SOME OF THE RESULTS OF FILTRATION OF CIVIC WATER-SUPPLIES.

FIVE years ago Hamburg had an epidemic of cholera, which was traced to the pollution of the drinking-water taken from the river Elbe. There were nearly nine thousand deaths. Altona, just across the river, received its drinking-water from the same river, and yet there were extremely few cases of cholera. The explanation was that at Altona the water was passed through filter-beds. Filtration of London's water-supply reduced the death-rate from typhoid fever eighty-six per cent. Filtration in Warsaw rid that city of typhoid, which had been extremely prevalent there. Ten cities of Europe have introduced filtration, with the immediate result of eliminating typhoid fever.

In this country, Lawrence, in Massachusetts, after suffering from several epidemics of typhoid, found health and immunity in a filter system. A writer on this subject has compiled the statistics of typhoid-mortality of twenty-four cities of the world during four years. In New York, for instance, the rate per one hundred thousand was 20.4, while in Berlin it was only 8, in Vienna 7, in Rotterdam 5.2, and in The Hague 4.9—these four cities using filtered water. In Chicago the rate was as high as 84, in Washington, 76.6, and the whole average of the cities using unfiltered water was many times higher than those using filtered water. The lesson is so plain and so positive that there can be no doubt of the absolute value of filtration for large cities, and it would mean to a place like New York the saving of hundreds of lives every year.

SOME LESSONS OF THE WAR.

To one who has not read between the lines of the striking events which have characterized the present war it may seem premature to philosophize or to dogmatize regarding the conclusions to be drawn therefrom. But it must be remembered that decisive, epoch-making occurrences have dominated the progress of affairs; history has been made rapidly and conclusions follow with equal steps.

First and most conspicuous of all stands the fact that the few engagements have been great smashers of theories as well as of cruisers and torpedo-boats. By the experienced, practical commander, as well as the theoretic strategist, war at the close of the Nineteenth Century has been pictured as a cold, scientific, unimpassioned affair, between highly refined instruments of destruction manipulated by men whose personal equation, beyond the simple qualification inherent in trained mechanics, did not enter into the problem. Dash and daring, endurance and pluck, courage and self-possession, were no longer factors of importance. The whole question was to hinge upon the long range, deadly accuracy, explosive powder and rapidity of action of the engines of war. And yet every aggressive movement of this war, whether on land or on the sea, has set these theorists at naught. The well-considered audacity and initiative of Dewey's attack at Manila was the determining factor in securing at so little cost the fruits of that brilliant victory. And what shall be said of the personnel, the steady self-possession, the nerve and daring which characterized the rank and file, officers and men, in the heroic dash upon the enemy's lines before Santiago? No superiority of equipment (for the Mauser rifle is as deadly a weapon as any in the hands of the American forces), not superiority of position (for that was with the other side), but the moral and physical qualities of the men who were behind the bayonets carried

the heights and won the day. Intelligence and moral force in the individual soldier is after all, even at the close of the Nineteenth Century, the true foundation of an army's greatness.

This is the more gratifying to those who are interested in the progress of civilization in that it demonstrates that a long period of peace does not sap the patriotism nor diminish the courage of a peace loving commercial people and that those qualities of character and mind which win success in the quiet walks of life are equally efficacious upon the battlefield.

THE BACTERIAL TOXINS.

THE meaning of surgical bacteriology in the clinical and therapeutic significance of the term would be much better expressed, for all practical purposes, by the term "surgical toxicology." By this it is meant that in the pyogenic and specific infectious diseases, the real source of danger and the real damage to the system, locally and remotely, is not the bacteria themselves but the products of the bacteria. The pathogenic bacteria gain entrance to the system because of a *locus minoris resistens*, and are enabled to invade new tissues, not because of a power on the part of the micro-organism itself to enter or kill healthy tissue, but because the chemical toxins or toxalbumins produced by the bacteria first prepare the way by lowering the vitality and thereby the resisting power of certain cells. A type of degeneration, a cloudy swelling, is produced and the bacteria may invade the tissues as rapidly as these poisonous substances have destroyed their resisting power. By their action in the walls of the blood-vessels a condition of inflammation is produced with a pouring out of white blood-cells and serum to further impair the vitality of the tissues. On the other hand it is the toxin that, from the very beginning of the process, osmoses into the blood stream as a crystalloid chemical substance and is carried to the thermogenic center to produce fever. If the bacterial growth is active and large amounts of the bacterial poisons are produced the system will be overwhelmed by the dose; cloudy swelling will be produced in the heart, liver, and kidneys, and the heart will be rapid, and the urine scanty and albuminous. The poison in the blood impairs the red blood-corpuscles and the patient is pale and anemic. Finally the patient dies because the heart can hold out no longer under the poisoning which is as definite and clear as the poisoning by arsenic, phosphorus or any other of the chemical substances that are poisonous to the body.

It is apparent that this chemical product, termed a toxalbumin, is the element of danger to the individual, and it is equally apparent that the clinical symptoms presented by such a patient are to be traced to the toxalbumin as well. The local inflammation, the fever, the rapid and feeble heart, the increased respiration, the anemia and various functional disorders are all dependent upon cell-degeneration in these organs or centers. Let us turn to the treatment of an infection. The one object of septic surgery is to obtain good drainage and the success of the treatment will depend upon the efficiency of such drainage. For this purpose free incisions are made to liberate the secretions laden with toxalbumins and bacteria and an effort is made to conduct them by means of drainage methods into our dressings instead of the blood; continuous irrigation or submersion are established in order that the chemical crystalloid substances may *diffuse* externally; and it is for a similar reason that the toxin-laden blood is sometimes removed from the veins and its place supplied by normal salt solution in order that we may remove mechanically a portion of the dose. The medication in the case is entirely confined to stimulation by alcohol, strychnin, digitalis, etc., to counteract the effect of the poison.

The bacteria themselves, although recognized as the remote and original cause, are playing a very small part in this scene. Most of us do not remember this often enough in conducting our surgical cases of infection. As has been said before, the term surgical toxicology expresses to our minds more exactly the cause of the symptoms that are present and at the same time gives us a properly directed treatment.

ECHOES AND NEWS.

The Northern Tri-State Medical Association.—The next annual meeting of this Association will be held at Elkhart, Ind., Tuesday, July 19, 1898. Hal C. Wyman, M.D., is President and H. D. Wood, M.D., Secretary.

Nurses for the Red Cross.—The Red Cross Society announces that it will consider the applications of none but trained nurses. Many unprofessional women apply for

positions as assistants, but they are not available for the purposes of the Society.

Death from Trichinosis.—Six members of a family named Von Zastrow, living near Binghampton, N. Y., died recently from trichinosis. The disease, as so frequently happens, was diagnosed as typhoid fever, and not till an autopsy was made upon the last victim was the exact condition known.

A Noted Morphin Fiend.—A case of chronic morphin poisoning was recently treated at Bellevue Hospital which surpasses all records in the amount of the drug which was daily consumed. The victim is a druggist and for three days previous to admission to the Hospital had been taking daily sixty grains of the sulphate of morphin.

The Hospital Train in Collision.—On Sunday night last the hospital train, while bearing a load of wounded soldiers to Fort McPherson, near Atlanta, Ga., met with a rear-end collision. The private car attached was demolished, but no lives were lost. Later the train continued its journey without further inconvenience to its passengers.

Vaccination in England.—The bill now before Parliament providing for compulsory vaccination is meeting with persistent opposition. Already ten pages of amendments have been offered and the antivaccinationists are doing their best in every way to discredit the measure. The profession, which now has a strong representation in Parliament, is doing what it can to sustain the bill.

Yellow Fever Promptly Suppressed.—The Marine Hospital Service announced July 9, 1898, that as far as is known there is not a single case of yellow fever in the United States. The total number of cases in the recent invasion at McHenry, Miss., was twenty-four. The last patient was discharged July 8th. There are no other cases under treatment and no suspicious ones under observation.

Blood Charts.—The clinical examination of the blood has been found to be of so great diagnostic and therapeutic importance that it is rapidly becoming a part of the routine examination of patients. The preservation of such records has been simplified by Dr. J. C. DaCosta, Jr., of Philadelphia, who has devised a systematic chart for notes of blood examinations. These charts are published by the J. B. Lippincott Co.

New Quarters for the New York Department of Charities.—Commissioner of Charities Keller, the deputies and the clerical force of the Charities Department, as well as the outdoor poor department, have moved from their old quarters at Third Avenue and Eleventh Street, into the new building, which has just been completed, at the foot of East Twenty-sixth Street. The new building, which was commenced under Mayor Strong, cost $60,000.

Measles in the Tropics.—Since the introduction of rubeola following the annexation of the Fiji Islands by the British in 1874, no epidemic is held in more dread by the natives of the Pacific islands. Owing to their ignorance of the dangers of the practice they could not be prevented from seeking relief from the cutaneous irritation by bathing in the nearest stream or surf. A mortality of more than thirty per cent. was the result. Quarantine laws of their ports emphasize the exclusion of measles above almost any other contagious disease.

Consolidation of the Buffalo Medical Schools.—Official announcement is made of the fact that the Niagara University Medical College and the Buffalo University Medical School have consolidated and have become one institution. It is announced by the *Buffalo Medical Journal* that this union is made in the interests of harmony and in accordance with the spirit of the age, which insists that there are too many medical colleges. What the name of the consolidated institution shall be is not stated, but as the Niagara Medical College is said in a measure to have sunk its identity, the natural inference is that that name will disappear.

Another Sneak-thief Victimizing New York Doctors.—A woman of slight build and medium height, dressed in mourning, calls to see the doctor who treated her husband and little girl two and one-half years ago. She is a glib talker and tells the servant that husband and girl are both dead. She states that the doctor wouldn't know her now for she was then quite stout; she lives out of town at present and is quite timid about coming to the city alone. She has a sore throat and coughs continually and asks the girl to kindly bring her a glass of ice-water. When she returns the would-be patient is gone. The doctor, when he returns, misses a sheet of postage-stamps from his desk drawers, an umbrella from the hat rack in the hall, etc., etc.

The Use of Intoxicating Beverages Restricted by General Miles.—Major-General Miles has issued a general order to the Army announcing that the history of other armies has demonstrated that in a hot climate, abstinence from the use of intoxicating drink is essential to continued health and efficiency; and enjoining the division commanders to restrict or entirely prohibit the sale of such beverages if the welfare of the troops or the interest of the service requires such action. For a general order emanating from the headquarters of the army upon this subject, a more positive statement would not have been out of place. No physiologic fact has been more thoroughly demonstrated than that the use of alcohol in climates representing the extremes of heat and cold, namely, in Arctic expeditions and in tropical campaigns, is not only not beneficial but positively harmful.

Typhoid Fever at Camp Alger.—Colonel A. C. Girard, chief surgeon of the Second Army corps, reports: "There have been only forty-one cases of typhoid fever since the camp was established on May 29th. Ten of these cases originated in the squadron of the New York cavalry. Four men arrived in camp with the disease, and six caught it while at farm-houses doing provost duty. Members of the Sixth Massachusetts now at the front contracted typhoid fever from well water at Falls Church depot while

doing provost duty. Other cases are isolated, and average about one to every regiment. The water in the wells of the camp grounds is absolutely pure, and has been tested by an analytical chemist from the Surgeon-General's Office in Washington. There are no cases of typhoid in camp now, as shown by the regimental surgeons' reports. As soon as a case is discovered the sufferer is sent to Fort Myer, and every precaution is taken to prevent the disease from spreading."

Antistreptococcic Serum.—The New York Board of Health has decided to put on public sale its antistreptococcic serum for the treatment of diseases caused by streptococcic infection. The success attained by the use of this product, not only in the laboratories of the Board of Health, but also in private practice, justifies this general recognition and distribution to the profession. The excellence of this serum is due largely to its freshness. No preservative fluid has yet been found which does not destroy the efficacy of antistreptococcic serum. The same is also true of tetanus serum. To make them of any value, therefore, a fresh supply of these preparations must be kept constantly on hand. The Board of Health is prepared to do this. The serum is put up in vials of two sizes, one of ten cubic centimeters and the other of twenty. They will be sold for one and two dollars each. The Board of Health also announces that it is prepared to make bacteriologic examinations, free of charge, of any suitable material sent from patients who have been or are to be treated with the serum.

American Medical Association and the "Spooner Bill."—Dr. U. O. B. Wingate desires to have a statement made regarding his understanding of the action of the American Medical Association upon the Spooner Bill, at its recent meeting in Denver. He presented resolutions approving of the Spooner Bill. "On motion the report was accepted. Another motion was made and duly seconded, to amend the last resolution by referring the same to the Board of Trustees, as it was necessary for all matters pertaining to appropriations to be referred to that Board. This motion to amend was carried. A motion was then made to adopt the report and resolutions as amended, and was carried. Thus, the Association adopted the report and resolutions with the exception of the last resolution, which was referred, for constitutional reasons, to the Board of Trustees." This explanation is evidently one which does not explain. The ruling of the presiding officer was certainly peculiar. A motion to adopt a report and resolutions burdened with an amendment referring to a Board of Trustees, which was carried, can hardly be construed, constitutionally, as giving the sanction of the Association to the original motion.

The Plague in Africa.—Professor Koch announced in Berlin on Thursday of last week the results of his investigations into the plague, which may arouse some apprehension. He declared that the view entertained ten years ago that the plague no longer threatens mankind must be abandoned. There are now no less than four plague centers, the last of which Professor Koch discovered in the Hinterland of German West Africa. Former outbreaks have been traced to Mesopotamia, where it has never entirely disappeared. But in China the plague is endemic, and its center is the province of Hunan. In Tibet is a second center. The latest outbreaks in China and India have had their origin there. The third center is on the west coast of Arabia, in the vicinity of Mecca. This center is of special importance in view of the pilgrims, but it is doubtful whether the plague is endemic in the neighborhood of Mecca. Nothing was known of any other plague centers until Professor Koch discovered a fourth in equatorial Africa. It was found that a devastating disease prevailed in Kissibia. Suspecting that it was the plague, Professor Koch proceeded from India to West Africa, and was able to identify the disease as bubonic plague.—*New York Sun.*

The British Medical Association.—The sixty-sixth annual meeting of the British Medical Association will be held at Edinburgh on Tuesday, Wednesday, Thursday, and Friday, July 26, 27, 28, and 29, 1898. The meeting will be presided over by Sir Thomas Granger Stewart, Professor of the Practice of Medicine and Clinical Medicine in the University of Edinburgh. The address in medicine will be delivered by Thomas Richard Fraser, Professor of Materia Medica in the University of Edinburgh, the address in surgery by Thomas Annandale, Surgeon to the Edinburgh Royal Infirmary, and the address in sociological medicine by Sir John Batty Tuke, Lecturer on Insanity in the Royal College, Edinburgh. Edinburgh has been long celebrated as one of the leading centers of medical education of the world. It is twenty-three years since the association last met in that city, and it is with no little interest that the members of the Association and its guests will note the substantial evidence afforded by new buildings, new organizations, and increased opportunities that Edinburgh is still keeping abreast of the times in all that goes to make up a great educational center. American talent will probably not be so much in evidence as at the Montreal meeting last year, but it is the intent of a goodly number of our representative men to be in attendance.

CORRESPONDENCE.

OUR FOREIGN LETTER.

[From Our Special Correspondent.]

THE BERLIN DOCTOR'S CLUB—PROFESSOR KOCH ON MALARIA AND SOME CIRCUMSTANCES IN THE CASE—EYE DISEASES IN SPAIN—PERNICIOUS ANEMIA AND ATROPHY OF THE GLANDS OF THE INTESTINAL TRACT.

BERLIN, July 3, 1898.

THE Doctor's Club of Berlin celebrated the formal opening of its club quarters on June 18th. A number of invited guests were present on the occasion, and with nearly 400 members a very pleasant evening was passed. When the club project was first hinted at it found a great many objectors, and there were ominous headshakings as to the political, university, and personal interests that would inevitably keep such an institution from being a

success. But thanks to the executive ability of Professor Lassar, whose management of the Lepra Conference showed foreigners the magnificent faculty for organization that Germans had long known him to possess, the new club promises to be a lasting and influential institution. Professor König, who occupies the Chair of Surgery at the University, said publicly during the evening that there was every reason to think that the new club, if it absolutely adhered to its avowed purpose of bringing the doctors together for social purposes only, would be able to do a great deal to obviate the differences and unpleasantnesses which the intense competition of a large city had inevitably brought into the profession. The general impression seemed to be that the club will accomplish this much-to-be-desired object—the lessening of what the Germans call *uncollegialität*—uncolleagueality, a very expressive and specific term for our indefinite euphemism unprofessional conduct. Such a desideratum is more and more making itself felt all over the world, and the German attempt at cutting of the Gordian knot of the difficulty by social organization cannot but be watched with sympathetic interest.

It is interesting to note that within this last month the announcement has been made that the medical men of Paris also have begun the organization of a club. Their avowed purpose, besides the benefit of the profession at home, is the proper welcoming of foreigners, especially for the International Congress in 1900.

Professor Koch is to talk in the near future before the *Deutsche Gesellschafft für Oeffentliche Gesundheitspflege* (society for the care of public health) on tropical hygiene. The exact date has not yet been announced. Some of his views on malaria, the doubt thrown on the existence of the remittent form of malaria, the non-malarial character of the hematuria which occurs during the course of the disease, the absolute prophylaxis afforded by quinin, and the tendency of the disease to be self-limited, were a source of considerable surprise to medical men generally. Perhaps some considerations of the circumstances under which they were expressed may help to the comprehension of the significance that is to be attached to them from a scientific standpoint. With the present interest in Germany generally, and especially on the part of the Imperial Government itself, in the colonization of South Africa, it was scarcely to be expected that very discouraging views as to the present status of the great scourge of that country, malaria, should be expressed before the German Colonial Society. Not that the observations have not their value but the opinions founded on them were bound to be modified by the thought of the importance of certain conclusions if they were true.

German colonization has never been a decided success. An American writer goes so far as to say that it has always been an utter failure and always will continue to be so, owing to the inadaptability of Germans generally to changes of climate, but this is evidently an exaggeration.

Of the Emperor's present *Welt politik*, or political policy, meant to give Germany a place in the world's politics everywhere, colonization, especially in the East and in Africa, is a favorite scheme. That under such circumstances even a great scientist should see things a little as he would like them to be and that the wish to lessen the evils of malaria should give rise to the thoughts, first that it is not as serious as most other observers have pictured it, and secondly, that the possibility of its complete eradication or at least modification by immunization is not distant, would be extremely natural. These considerations seem not without their value in the appreciation of Koch's recent views as to malaria, though of course his publication of them in a formally scientific communication must be awaited before serious criticism of them can be indulged in. Koch's closeness to the government once before, especially to its present head, who has some of the impetuosity of youth, not tempered by the judicial state of mind that comes from scientific learning, put him in a false position and led to the raising of hopes that were destined to sad disappointment. After that lesson there is all the more probability that this cannot have happened again and that Koch's views on malaria when given to the scientific world will be found to represent some really new ideas on an old, old subject.

A recent communication before the Berlin Ophthalmological Society of Professor Hirschberg, the well-known ophthalmologist, on blindness in Spain, seems of more than passing interest. It contains practically the substance of his paper before the International Congress of Hygiene at Madrid in April. A trip through Spain some years ago called his attention to the large number of blind beggars that he met in the cities. This led him to investigate the subject of blindness in the country. To his surprise the only official statistics he could find on the subject, those of the Government census of 1860, gave the number of blind to the 10,000 of population as only 11. As England, France, and Germany, have 8 or 9 blind to the 10,000 inhabitants this seemed in utter discord with what was to be seen. Further investigation showed that travelers ever since the beginning of the century had been remarking the number of blind to be met with. Recently the Spanish doctors themselves have been waking up to the condition of affairs, and so it has all come out. Like everything else done by Spanish government officials the statistics, because of official negligence, are absolutely of no worth, and are the result of most carelessly gathered information. Meantime eye diseases have been spreading alarmingly. Hirschberg says he has never seen such marked phthisis bulbi, or so many cases of it as he met incidentally in Spain. Even among well-dressed people it is quite common to see individuals who have lost one eye, and such people with both eyes lost are not a rarity. Even in the halls of the Congress itself they were to be seen. Hirschberg, whose paper at the Madrid Congress was in Spanish in order to call Spanish attention to the subject, sounded a note of alarm as to the neglect manifested in such serious eye diseases as purulent ophthalmia neonatorum and trachoma, and demanded for the protection of the people themselves and of other countries more general medical attention to eye diseases.

A recent graduation thesis at the University of Berlin on "The Changes in the Stomach and Intestines in Pernicious

Anemia," by Dr. Max Koch, contains a complete review of the literature of this interesting subject to date, besides the results of original work in Virchow's laboratory. Though all of the patient's examined had died of exhaustion from the pernicious anemia itself, *i.e.*, without intercurrent disease, the atrophy of the glands of the stomach and intestines were found at very varying stages of involution, in some far advanced, in others only just begun, so that the essential connection between the blood disease and the atrophic process is evidently an indirect one. This is only a confirmation, but from a new point of view, of the opinion now so general that makes the atrophy of gastro-intestinal mucous membrane secondary to the anemic condition. Though faithfully looking for them Dr. Koch was not able to find the corpora amylaceæ which have been found in these atrophic conditions in the intestinal mucous membranes, while they occur frequently in the gastric mucous membranes, an observation that if substantiated may furnish material for the explanation of the origin of these pathological mysteries, the amyloid bodies found in the central nervous system, and prostate in the old, and in the remains of hemorrhagic infarcts of the lungs in patients of all ages.

TRANSACTIONS OF FOREIGN SOCIETIES

London.

URACHAL CYSTS—INFLUENCE ON GOUT OF THE MINERAL CONSTITUENTS OF VARIOUS VEGETABLES—CANCER OF THE BODY OF THE UTERUS—REPORT OF THE COMMITTEE APPOINTED TO INQUIRE INTO THE CLINICAL VALUE OF DIPHTHERIA ANTITOXIN—FIBROMYOMA OF THE UTERUS UNDER TWENTY-FIVE YEARS OF AGE—ANTEFLEXION OF THE UTERUS AND DYSMENORRHEA.

AT the Royal Medical and Chirurgical Society, May 24th, DORAN read a paper on "Urachal and So-called Allantoid Cysts." It was long since shown that in most human subjects the urachal canal is patulous to a certain extent, and cystic dilatations of this canal are by no means uncommon. If the posterior wall of such a cyst can be dissected free from the peritoneum, the cyst should be removed *in toto*. Frequently this is impossible, and in such cases the cyst should be freely incised and drained. In every instance, the relations of the cyst to the peritoneum and abdominal viscera, including the bladder, should be accurately determined. The bladder may be entirely separate from the cyst, or it may communicate with it through a small opening. Such an opening into the bladder should be closed by suture. Doran read notes of a case in which he had evacuated and drained a urachal cyst containing a pint or more of a brown glairy fluid. The patient recovered.

At the meeting of June 14th, LUFF read a paper on the "Influence on Gout of the Mineral Constituents of Various Vegetables." He carried on a long series of experiments to determine, (*a*) the effects of the mineral constituents of various vegetables on the solubility of sodium urate at the temperature of the body, and therefore presumably on the uratic deposits; and (*b*) the influence, if any, exerted by these constituents in retarding the conversion of the sodium quadriurate contained in the fluids of the body into biurate. Obviously the elucidation of these points will have a direct bearing on the treatment of gout. The vegetables employed were spinach, Brussels sprouts, potatoes, asparagus, Savoy cabbage, French beans, lettuce, beet, winter cabbage, celery, turnip tops, turnip, carrot, cauliflower, sea-kale, and green peas. It appears that 0.05 per cent. or more of the mineral constituents of nearly all of the vegetables exerts an influence on the solubility of sodium urate. Green peas were, however, absolutely inert. Curiously enough in these experiments, modern science was only confirming the practice of the ancients, who gave ashes of vegetable matter for the gout. Not all the vegetables given were, however, capable of delaying the conversion of the quadriurate into the biurate, but from the results of his experiments certain vegetables stand out as preeminently fitted to be eaten in gout. These are spinach, Brussels sprouts, French beans, Savoy and winter cabbage, turnip tops, turnips, and celery. Attempts to substitute for the vegetables themselves an artificial mixture of those substances which are found in their ashes by analysis, have so far proved unsuccessful. The artificial ash corresponding to the natural ash of spinach was found to have a *deterrent* effect upon the solubility of the sodium biurate. Whether a mixture of the natural ashes of different vegetables can be gived in place of the vegetables themselves has not yet been ascertained, and Luff is still working upon that problem.

At the Harveian Society, May 12th, HANDFIELD-JONES read a paper on "Cancer of the Body of the Uterus." Cases were quoted to show the unreliability of a diagnosis of malignant or benign growths made from scrapings of the uterus. Clinical signs are of much more value in determining the necessity for operative measures. Especial stress is to be laid on a rapid increase in size of the organ, although cancer of the body of the uterus is much less malignant than that of the cervix, and the disease may run a very long course. It is by no means limited to nulliparous women, but is almost equally common in those who have borne children. In the discussion which followed the reading of this paper, several members expressed their conviction that the microscopical examination of uterine scrapings is of little value.

ROUTH emphasized the importance of metrorrhagia at the menopause, which he considered a very serious symptom. The best guide to a correct diagnosis, is the finger *in utero*. He advocated the removal of any uterus after the menopause, which after curetting, continued to bleed and to increase in size.

At the Clinical Society, May 27th, CHURCH read the "Report of the Committee Appointed to Inquire into the Clinical Value of Diphtheria Antitoxin." The report was based upon the analysis of 633 cases. Of the patients who presented symptoms of laryngeal affection, nearly one-half escaped the operation of tracheotomy, a much larger proportion than is usually the case with diphtheria treated in other ways. Tracheotomy was performed seventy-five times, but only in two cases after the elapse of twenty-four hours from the first injection. The mortality

after tracheotomy was 36 per cent., as opposed to a mortality of 71.6 per cent. of a series of cases collected from general hospitals before the introduction of treatment by antitoxin. In the first five years of life the decrease in mortality after tracheotomy is most marked.

The total mortality in the 633 cases was 19.5 per cent., as opposed to 29.6 per cent. in the non-antitoxin control series. Not only was the mortality in the antitoxin series much less than in the other series, but the duration of life in the fatal cases was greater, a fact which has an important bearing on the development of paralyses. The closest investigation of the cases failed to reveal any connection between the use of antitoxin and the paralytic symptoms, neither as to the amount injected, nor as to the period of the disease at which injections were commenced. Some form of rash followed in about one-third of the cases in which antitoxin was used. Most of these rashes were erythematous or urticarial in character, the former type predominating. These had no bearing on the outcome of the disease. Pains in the joints due apparently to the serum were observed in a few cases of the antitoxin series. The percentage of deaths with suppression of urine was the same in both series. The general result of the inquiry showed that in the patients treated with antitoxin not only was the mortality notably lessened, but the duration of life was also prolonged. The injection of antitoxin may produce rashes, joint pains, and fever; with these exceptions no prejudicial action has been observed to follow in the series of cases investigated, even after the use of a very large quantity of the serum.

At the Obstetrical Society, June 1st, SPENCER read a paper on "Cases of Fibromyoma of the Uterus Occurring in Women under Twenty-five Years of Age." A brief abstract was given of forty recorded cases, and of two operated upon by himself. His conclusion was that uterine fibromyoma is rare before the twenty-fifth year, and is very rare before the age of twenty has been reached. There is no record of its occurrence before puberty.

HORROCKS upheld the reader in his views as to the rarity of fibromyomata in early life. They are also much commoner in single women than in married women, and in women who have never been pregnant than in those who have. Moreover, the tumors begin to atrophy as a rule after the climacteric. These facts and the further fact that they do not occur before puberty prove that they are in some way associated with active menstrual life.

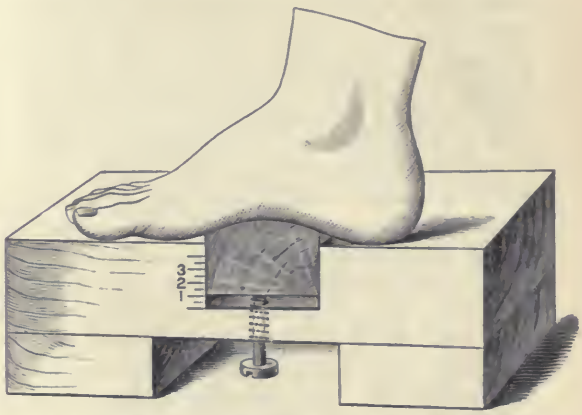
At the British Gynecological Society, June 9th, BANTOCK discussed the subject of "Dysmenorrhea in Anteflexion of the Uterus." He recognized three typical forms of anteflexion as follows: (1) That in which the body and cervix are both bent forward; (2) that in which the cervix is alone bent forward, the body remaining in fairly normal position; and (3) that in which the anteflexed uterus lies on its back in the bottom of Douglas' pouch. The bend *per se* is not the cause of the pain. It is only when the resultant congestion and thickening of the mucous membrane, which follows the obstruction to blood-flow has become well established that the pain is prominent. The character of the discharged blood clearly shows that there is an obstruction to its flow, as does the enlargement of the cavity of the uterus. For this condition there are only three rational methods of treatment: (1) Division of the cervix; (2) the stem-pessary; (3) dilatation. No operation upon the external os can avail when the condition to be remedied has its seat at the internal os. No vaginal pessary is of service in the treatment of anteflexion. The best method of dilatation is that by graduated bougies. It generally requires to be repeated at intervals.

NEW INSTRUMENT.

TO DETERMINE THE THICKNESS OF THE PAD USED IN PES PLANUS.

BY DAVID TRUMBULL MARSHALL, M.D.,
OF NEW YORK.

THE accompanying sketch shows an arrangement for determining the thickness of the pad used in the treatment of pes planus. The apparatus consists of a block of wood having in its center a recess or groove in which slides a block. The block fits accurately into the groove



and may be raised or lowered by means of a thumb-screw. The foot is placed upon the block, the patient resting his entire weight upon it. The movable block is raised by means of the thumb-screw until the arch of the foot is comfortably supported. The height of the block is read off on a scale at the side, and the pad then made without the tedious trying and building that is necessary in the ordinary method.

SOCIETY PROCEEDINGS.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, Held May 3, 1898.

DR. FREDERICK PETERSON, the new president of the Society, delivered an address, entitled

NEW PATHS IN PSYCHIATRY.

He said that a recent writer had described psychiatry as the new Prometheus which would wrest from Nature the secret of thought. The anatomist, the cytologist, the chemist, the embryologist, the pathologist, and in-

numerable other specialists are now engaged in different lines of research connected with the workings of the human body. Of the numerous pathways extending out before us into dimly lighted regions, one of the most intricate is that of physiologic and pathologic chemistry. The roads of normal and pathologic histology and cytology are more traveled. At least one of these roadways leading into the realm of the mind, and which any one in the Society might follow with profit, is that opened up by careful clinical study of organic diseases of the brain, in accordance with modern methods from the standpoint of psychology. He believed it to be of the greatest importance to study the quality, intensity, and tone of sensations, the contents, distinctness and energy of ideas, the evolution, durability, and associations of ideas, disorders of the affected life, such as depression, exaltation, apathy, and irritability, and the disorders of the idea-associations as regards memory, attention, rate of flow, coherence, ethical feeling, etc. Our studies of aphasia in the past had been remarkably deficient as regards the psychic side. Doubtless the new psychological theories would, in turn, give place to better ones, but there is a certain charm in sifting the psychical processes down to stimulus, sensation, idea-association, and movement. It becomes a delight to study the disorders of sensation, disturbance of the memory pictures, derangement of the idea and judgment-associations, and the influence of these disorders on the actions and conduct of the individual. The psychological laboratories attached to some of our universities, dealing as they do with the normal mind, cannot hope to accomplish as much as similar foundations attached to asylums for the insane and clinics for nervous diseases, in which a large mass of morbid material is collected. The great city of New York, with all its wealth and benevolence, might well lead the New World in the establishment of a psychiatric clinic, fully equipped for all modern investigation in this field. A psychopathic hospital would prove a boon in many ways, not the least of which would be the benefit to the insane now gathered into a single pavilion attached to one of the hospitals merely for distribution to various asylums, to the students of medicine, and to those interested in solving some of the riddles of the mind.

SUTURE OF THE MEDIAN NERVE.

DR. B. FARQUHAR CURTIS presented a young woman who, last September, received a small punctured wound of the right wrist. Following it there was anesthesia of the forefinger, and, to a less extent, of the thumb and middle finger, but without any marked paralysis. The area of anesthesia was not quite typical of that observed after complete division of the median nerve, because the ulnar side of the middle finger was not involved. The operation had been performed a week before, and on exposing the nerve it had been found that it had been completely divided in spite of the atypical area of anesthesia. On cutting off the bulbous ends an interval of about one inch was left between the ends of the nerve. Both ends were forcibly stretched and apposed, and the hand kept in a flexed position by a suitable splint. Two or three catgut sutures were passed, not merely through the sheath, but through the nerve itself. Instead of cutting away the bulbous ends entirely, the fibrous part of the sheath was preserved and used as a sort of flap for the reinforcement of the suture. The anesthesia had been so complete before the operation that she had repeatedly burned the ends of the fingers.

TRAUMATIC ULNAR NEURITIS—TRANSPLANTATION OF THE NERVE.

DR. CURTIS also presented a woman, twenty-eight years of age, who had been doing a good deal of writing with a pen. In childhood she had received a fracture of both condyles of the right elbow. As a result of this the ulnar nerve lay upon an exposed surface instead of in the groove. For two or three years there had been increasing numbness and pain. Dr. Dana had seen the case, and made a diagnosis of neuritis. Dr. Curtis exposed the nerve by a curved incision and flap. The nerve was found to be thickened for a distance of about an inch and a half, and to about twice its normal diameter. On incision through the sheath, there seemed to be a general increase of the fibrous tissue of the nerve. The nerve was split and stretched gently, and then removed from its exposed situation to a more protected part, *i. e.*, to the front of the elbow. The result had been surprisingly satisfactory, so that she had been enabled to resume her long hours of writing without discomfort. The speaker said that there had been some cases reported of dislocation of the ulnar nerve in which the nerve had been restored to its proper groove by operation. There had been no material change in the general appearance of the hand, except, perhaps, that it was a little more plump.

DR. SACHS said, regarding the maintenance of sensation in the ulnar half of the hand in the first case, that the areas of sensation pertaining to the two nerves are so irregular that one cannot predict with any certainty as to the result in any given case. The result in both patients presented was certainly very good.

TREPHINING FOR EPILEPSY.

DR. CURTIS then exhibited a recent case of trephining in epilepsy, with a view to illustrating the technic of the general operation of craniotomy with a bone flap. The patient, an Italian, twenty-five years of age, had had epilepsy quite severely, but the details of the previous history were not in his possession at present. There were no localizing symptoms, but there was a scar on the right side of the head, and at Dr. Hammond's suggestion an exploratory operation was performed last March. As there was no definite localization, a large opening was required. This was made by the osteoplastic method, using the wire saw. Four small trephine openings were rapidly made, and then a flat director of German silver was passed between the skull and the dura from one opening to the other. Through this an eyed probe armed with a string could be passed. The string served to carry the wire saw. The latter is nothing but a piece of piano-wire, having a screw-thread cut upon it. It is operated like a chain-saw, and cuts very rapidly. The advantage over the electric saw is that it eliminates

the uncertainties connected with the use of a battery. The disadvantage of having to put a guard underneath is one which is shared by all the other methods of this nature. As the saws are very cheap, a new one can be used for each patient. The saw was used on the three sides, and the remainder of the flap broken away. Fully one-third of the brain was exposed in this way. It seemed to him much easier to make these large openings and work through them than through the smaller trephine apertures. The cut with the saw is made obliquely, so that immediately afterward the bone can be replaced and will rest firmly in place. In this case, some atrophy of the cortex and of the underlying parts was found.

Dr. Curtis then reported the cases of two other patients who had been operated upon previously, and who had failed to present themselves at this meeting for inspection. The first case was that of a married woman, thirty years of age, who, as a result of a fall, had severely injured her right arm. She did not have any epileptic fits, however, until six years before coming under Dr. Dana's observation. Shortly before that time they had become very frequent and severe. In other respects she appeared to be healthy. The attacks always began in the left foot and spread up the leg; then they attacked the arm and spread to the body. She frequently had a complete, general, and typical epileptic attack, with loss of consciousness. There was no paralysis and no optic neuritis. She would have as many as a dozen attacks in one night. The speaker said that at the operation he had made an opening, two inches in diameter, over the fissure of Rolando. On testing the centers with a strong current of electricity, an intense general convulsion had been provoked. This began in the left leg, and the pulse becoming very feeble, the wound was closed temporarily. It was worthy of note that the fits continued nothwithstanding the relief of pressure afforded by the removal of the bone. A week after this operation the wound was reopened, and a flap of dura was turned back. The vessels surrounding the motor-centers were ligated, and then the cortex on both sides of the fissure of Rolando and the region of the arm and leg centers were excised. Some adhesions to the pia mater were encountered and separated. There was some rise of temperature, but no other sign of inflammation after the operation. The patient was completely paralyzed in the left arm and leg, and had a few fits during the first week, and her whole demeanor underwent a marked change. After a time the mental depression passed off, and when she left the hospital she was in good spirits. She took the bromids during her stay in the hospital, but discontinued them afterward. Motion in the arm and leg began six weeks after operation, and in six months she had complete power in both extremities. Eighteen months after operation he had examined her. She had gained twenty or thirty pounds in weight, and had entirely recovered the use of the hand and leg. She no longer had fits, and was in the best of health, her former cheerfulness and mental activity having been restored. Slight headache and indisposition to meet people at certain times were the only remnants of the old trouble. There was a considerable depression of the scalp over the aperture.

The second case was one of hemorrhagic cyst of the brain, with epilepsy, in which recovery followed the operation of trephining. The patient was a Russian boy, thirteen years of age, who was admitted to the Post-Graduate Hospital on June 11, 1896. Fourteen months previously he had had a cerebral hemorrhage, with left hemiplegia, and for about a year he had suffered from epileptic fits. There was no special localization, but he was guided to the situation by the limited paralysis on the opposite side of the body. In this case, the operation was about the same as in the other. The aperture made was about two inches in diameter over the motor region. The dura was opened, and when the circulation became feeble the brain appeared unusually blanched and soft. Further exploration revealed a cystic cavity immediately underneath the cortex. Here the cortical substance of the brain was very much thickened by fibrous tissue. The cavity extended backward into the posterior lobe and forward for three or four inches. The cyst contained clear serum, but there was no tension in the cyst. The cyst was closed by catgut sutures, as the brain tissue was quite fibrous, and permitted such a method to be used. The operation was done on July 4th. On October 25th there were seven convulsions during twenty-four hours. On the following day a large aspirating-needle was plunged into the cyst, and five or six grams removed. He remained free from convulsions until February 18, 1897, when it became necessary to repeat the aspiration. Up to last January he had remained free from convulsions under the use of the bromids.

DR. W. M. LESZYNSKY said that he had seen this boy about one week ago. Although before operation the bromids had had absolutely no effect, since the last aspiration of the cyst the boy had been comparatively well. He had been taking 30 grains of bromid three times a day, and now had only an occasional slight attack, limited to the paralyzed side—about one in three weeks—and his mental condition had improved. He had reported the case to the American Neurological Society last year. Even in such apparently hopeless cases some benefit seemed to follow surgical interference. He had suggested an exploratory operation in view of the limited character of the paralysis.

DR. C. L. DANA said he desired to emphasize the remarkable success achieved in the case which had been under his observation, and which was one of true, classical Jacksonian epilepsy, without any discoverable gross lesion of the brain. Dr. Collins and he had made a microscopic examination of the excised part, and had found marked degenerative changes in the cells. Dr. Collins had published in *Brain* the results of this study. Dr. Dana said he had no doubt that the case, if left alone, would have developed into one of ordinary epilepsy.

DR. SACHS said that one great obstacle to the successful performance of these operations has always been the difficulty of obtaining a suitable saw. The instrument just exhibited seemed to be a great improvement on former instruments. Most of the neurologists and sur-

geons seemed now agreed upon the advisability of using a large flap. He thought a careful record should be made of every case of this kind in which a good result has been obtained, because the whole subject of the surgical treatment of epilepsy had lately received another serious blow from Bergmann. Certainly, a sufficient number of patients have been relieved by operation to warrant a selection of such cases as seem suitable for operation, particularly those in which the interval between the development of the epilepsy and the operation is not very long. The fact that in the case just reported the interval had been six years made the good result all the more remarkable.

DR. J. ARTHUR BOOTH said that it was common for patients to go without attacks for two or three years under the bromid treatment, and without surgical interference; hence, these persons should not be considered cured until at least four or five years have elapsed.

DR. PETERSON also thought it extremely important that careful records of these cases should be kept for a long time after operation. At least four years should elapse without an attack before a patient should be considered cured.

DR. CURTIS said he had not intended to bring up the general subject of the surgical treatment of epilepsy at this time. He thought the surgeon should be willing to operate upon a good many of these patients, but two classes should be carefully distinguished, *viz.*: (1) Cases like the ones just reported, in which there is a localization of the epilepsy, and (2) cases like that of the Italian just presented, whose future is hopeless and whose history is very vague. For the sake of the few who might be benefited, it seemed to him justifiable to operate. The operation certainly causes a temporary amelioration of the symptoms, and this repays the patient for the slight risk incurred by submitting to the operation. In cases requiring an extensive and dangerous operation the probable benefit is correspondingly great. He was not enthusiastic about this kind of work, and did not speak of the patients as "cured," but it was certainly worth while to place the cases on record. At present, an exploratory operation seemed to him justifiable and desirable.

REVIEWS.

YEAR-BOOK OF TREATMENT FOR 1898. A Critical Review for Practitioners of Medicine and Surgery. Philadelphia and New York: Lea Bros. & Co., 1898.

THE fourteenth annual volume of the "Year-Book of Treatment" lies before us. Like its predecessors, it contains the correlated knowledge on the treatment of diseases in the various specialties of medicine in complete and compact form.

Year-Books have taken a permanent place in medical literature, and this one has always occupied a unique position for its completeness, the choice of its selections, and its excellent literary form. A few changes have been made in the list of authors in the present volume. The work is to be most cordially recommended for general use.

AIDS TO ASEPTIC TECHNIQUE. By A. D. WHITING, M.D., Assistant Surgeon to the German Hospital, Philadelphia. Philadelphia: J. B. Lippincott Co., 1898.

THIS little work is intended to be of assistance to nurses and surgical assistants who are obliged to prepare aseptic materials for surgical operations. In the scope of its work the author has undertaken to establish the reasons for the procedures which he describes, and in most instances has done this admirably. His descriptions of the technic of the various methods employed in this work are modern and thorough. The work is a good one for those for whom it is intended, but almost too superficial for the surgeon. The few illustrations are well executed and the book is well made.

THERAPEUTIC HINTS.

For Dandruff.—

℞ Green soap . . . . . ℥ iii
Melt at low temperature and add:
Rectified alcohol . . . . ℥ iss
Glycerin . . . . . ʒ iiiss
Filter and dissolve in the filtrate:
β-naphthol . . . . . gr. xl.

M. Sig. To be used with water as a soap for the scalp.

For Obstinate Vomiting.—

℞ Tinct. iodi . . . . . gtt. x
Aq. dest. . . . . ℥ iv.

M. Sig. One tablespoonful in half a glass of sweetened water between meals.—*Steffen.*

Administration of Chaulmoogra Oil in Leprosy.—The following formula is recommended as enabling the drug to be taken and retained without difficulty:

℞ Ol. chaulmoograe . . *m.* xxx—*m.* lxxx
Ol. amygdal. dulc. . . ʒ ii—ʒ iiss
Acaciæ . . . . ʒ iv
Syr. aurant. cort. . . ℥ i.
Aq. laurocerasi . . *m.* lxxx
Lactis . . q.s.ad. ℥ iv.

M. Sig. To be taken in divided doses (four or five) during one day. A little whisky may be added if desired.—*Danlos.*

Lactophenin in Typhoid Fever.—It is the experience of Diaz of Palma that this drug will abate the fever and restlessness in typhoid fever without inducing the perspiration and exhaustion which may follow the use of antipyrin or phenacetin. He gives from forty-five to seventy-five grains in twenty-four hours and has never found it to cause gastro-intestinal irritation or other undesirable symptoms.

For Acute Gastro-enteritis in Infants.—

℞ Bismuthi subnitrat. . . . gr. xl
Tinct. opii camphorat. } aa . *m.* xlviii
Tinct. chamomilæ }
Glycerini . . . . . ʒ iiss
Ag. cinnamomi . . . . ℥ ii.

M. Sig. One teaspoonful every three hours.

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXXIII. NEW YORK, SATURDAY, JULY 23, 1898. NO. 4.

ORIGINAL ARTICLES.

THE DIAGNOSIS AND TREATMENT OF EARLY TUBAL PREGNANCY.[1]

BY JOSEPH BRETTAUER, M.D.,
OF NEW YORK;
ADJUNCT GYNECOLOGIST TO MT. SINAI HOSPITAL.

THOUGH the subject of ectopic gestation has received a great deal of attention during the last few years, it is hardly necessary for me to apologize for bringing it before you. We need but to consider the gravity of the condition and its frequent fatal termination to find ample justification for reviewing the subject before a body of practising physicians, who, in the large majority of instances, are the first to see and advise in the emergencies which arise in this condition. To be able to meet these emergencies most advantageously it is of the first importance to recognize them. In order that we may prevent their occurrence, we must learn to diagnosticate an extra-uterine gestation before the alarming symptoms which sometimes accompany or follow it set in.

It is not my intention to go into an exhaustive study of the subject in its etiologic and pathologic aspects but rather to show how we can best meet these emergencies, as I have been taught by my own experience, gained through the clinical observation of thirty-four cases which it has been my good fortune to see within the past six years. The fact that I had occasion to see only four patients before any complicating or alarming symptoms had appeared would indicate that this condition in its inception causes only slight disturbances, scarcely enough to bring the patient to the physician's office. This I am sorry to say is quite true of a number of cases, and in such of course a serious accident may intervene before we have seen the patient. But the number of such cases is small compared to those in which the condition of affairs is not only not recognized but not even suspected. They are diagnosed as threatened or incomplete abortions, until sudden collapse makes the diagnosis clear. It is in these cases that we must learn to suspect the condition at once and either verify the suspicion by further observation or diagnose some other disturbance. It is intentionally that I use the word "suspicion" since it is in most cases impossible to diagnose an unruptured tubal pregnancy after a single examination. But once suspected we will be on the lookout and will carefully observe the patient.

As in no other pathologic condition I have learned in these cases to appreciate the value of a minute, carefully taken history and of a close study of the symptoms present. In all text-books, even in the most recent, we find "amenorrhea" mentioned as one of the cardinal symptoms of ectopic gestation. This is only partially correct and it is misleading, since it is not infrequent that there has been no cessation of menstruation; I would even go so far as to say that amenorrhea is the exception. But irregularities in menstruation or irregular uterine hemorrhages are in my experience not only the rule but are the very symptoms which lead these patients to seek advice. We hear that shortly after menstruation, say one or two weeks, a slight show was noticed; that it disappeared and after a few days reappeared; the time for the next period was marked either by a more profuse flow or by its entire absence. Or at the regular time of menstruation a scant discharge took place, stopped, and reappeared within a few days. Only rarely has it been my experience to find that "amenorrhea" has been present for one, two, or more months before this bloody discharge showed itself. These and some similar variations in the menstrual history are constant symptoms and to me always sufficient to call into consideration the possibility of tubal pregnancy. General and reflex symptoms of pregnancy may be present or not; they are more marked if the impregnation occurs in women who have been sterile for a number of years. These comprise a sense of fulness in the abdomen, swelling of the breasts, frequent micturition, and gastric disturbances. A certain feeling of heaviness in one or the other inguinal region which two of my patients felt but were unable to describe more closely, deserve mention, as it has been observed by others also.

These few subjective symptoms, together with the atypical or irregular bloody discharge should at once give rise to the suspicion of ectopic gestation. This suspicion, however, will at once be set at rest if on bimanual examination we find a normally pregnant or a pregnant retroverted uterus, both of which conditions will give rise to these symptoms if for some reason or other pregnancy has been disturbed and an abortive process has set in; and secondly (and this is far more important), if the uterine appendages are

[1] Read by invitation before the Monroe County, New York, Medical Society.

felt to be normal. Should we find, however, besides an enlarged and softened uterus a tumor of varying size to one side or behind it, the suspicion of ectopic gestation will rest on much firmer ground.

The typical characteristics of a pregnant tube differ widely from those evoked by any other possible condition. Laterally or behind the enlarged, slightly softened uterus, we feel a mass, varying in size from a large walnut to an orange, somewhat tender to the touch, movable, distinctly pulsating, imparting to the fingers a pseudo-fluctuating, boggy impression, and sometimes contracting during palpation. These symptoms together with the points already gained from a minute history are typical and decisive for an absolutely positive diagnosis. The expulsion from the uterus of a decidua *in toto* or in shreds at this stage is not a constant occurrence but is characteristic. In illustration I will give briefly the history of a case in which the diagnosis was made at this period and was verified by operation:

Mrs. M., thirty-eight years old, had had one child twelve years before, and four miscarriages since. On August 2, 1893, when I saw her first she said that her periods had been perfectly regular until July 15th, when after she had been two weeks overdue she had had a flow and had been treated for an abortion. Though she had expelled a membrane from the uterus she did not believe it to be an ovum for the sac was apparently an empty bag and judging from her former experience in this direction the membrane did not strike her as one containing a fetus. Because of a peculiar dragging sensation in her abdomen she consulted me. On close questioning I learned that though the regular menstruation had been suppressed she had had a slight show one week before the period was due. This, however, had only lasted a few hours and had not reappeared until three weeks later, when the flow started again and kept on varying in degree until the membrane above spoken of made its appearance. Such symptoms of pregnancy as nausea, a sense of fulness in the breast and slight pigmentation around the nipples were present. On bimanual examination a tumor of the size of an orange was felt to the right of the enlarged uterus. It had the characteristic features above described and at once the true state was manifest. The patient, a very intelligent woman, was not at all surprised when informed of the probable condition, consented to be operated on, but only wished a few days to arrange her business affairs, promising meanwhile to keep quiet and not exert herself physically. On account of severe cramp-like pains in the right iliac region she sent for me twenty-four hours later. Operation was now considered urgent and was accepted. The diagnosis proved to be correct; a still unruptured pregnant tube was removed which showed its peritoneal covering in some places already torn with slight bleeding from the underlying tissue.

Unfortunately, however, the conditions are only very rarely as clear and as distinct as in the case just narrated. Frequently we find patients of inferior intellect whose powers of observation are limited, who are unable to help us in elucidating a true and distinct history not only as to the present condition, but in regard to previous inflammatory processes as well. An examination is often made difficult by hyperesthesia, or by fat, or by contracted abdominal walls, which necessitates an anesthesic to enable us to explore the pelvis. Here too we may find a tumor, but may be unable to detect the classical features of a tubal pregnancy. We are then confronted with the task of making a differential diagnosis between various other possible conditions on the one hand and tubal pregnancy on the other. This is not only a difficult problem but sometimes one the solution of which is impossible. We have then to be satisfied with a mere probable diagnosis of ectopic gestation, as the outcome of our examination, painfully careful though it may have been.

We may exclude from the diagnosis normal pregnancy, still existing or interrupted, with coincident swelling of the uterine appendages, due either to cystic or inflammatory changes if, after repeated examinations, we find, for instance, that the mass has grown while the uterus appears either the same in size or even smaller. Pregnancy in a bicorned uterus may very easily be mistaken for an ectopic gestation, and can be excluded only by the most careful palpation of the pelvic contents under narcosis. This condition is, however, of too rare occurrence to play an important rôle in our diagnosis. Pregnancy in a retroverted uterus, with or without accompanying pathologic conditions of the tubes and ovaries, has in my experience always been easily distinguished from a tubal pregnancy. Only in a small number of cases will the uterine sound prove to be of any material use in our attempt to reach a conclusion. It helps us in doubtful cases to recognize positively the position of the uterus; it may prove the emptiness of the uterine cavity, but gives no hint as to a previous abortion. The microscopic examination of expelled shreds I consider of great importance when done by pathologists thoroughly familiar with the subject. It surely helps us in a given case to assert positively that a process of gestation has been established; sometimes under very favorable circumstances the microscopist may even be able to go farther in his assertion and state that the pregnancy has not been uterine.

The symptoms of tubal pregnancy will be much more distinct if the walls of the tube are unable to reach the degree of distention required by the growth of the ovum. The tube will either gradually tear or else it will make efforts to expel its contents through

its distal end into the peritoneal cavity. We are then told of pain extending over hours or sometimes days with but short intermissions. The character of these pains is not only severe but of such a nature that patients are less able to endure them than any other pains they are called upon to suffer. They begin usually in one inguinal region and not infrequently cause the patient to feel faint or even lose consciousness for a short time. On recovering nothing pointing to any serious disturbance is noticed until another attack occurs. These pains, caused by contraction of the tubal walls, are in my experience usually followed by the expulsion of pieces of decidua from the uterus. With the history of disturbed menstruation and the presence of a pelvic mass of appropriate size, these symptoms are sufficient to warrant a diagnosis of still unruptured tubal gestation.

Much easier is our task when we are called to see a patient at the time of or soon after rupture of the tube, or when a tubal abortion has occurred. Harmless and as little disturbing as the presence of an unruptured pregnant tube appears to be, just as alarming and distressing is the condition when rupture has taken place, or when the tube has expelled the ovum into the peritoneal cavity. We are told of a sudden attack of severe abdominal pain followed by a loss of consciousness. The patient herself shows all the signs of severe shock and acute anemia. The skin is pale and cold, the radial pulse if at all perceptible is small and rapid. The abdomen is slightly distended and extremely sensitive to the touch. The temperature is normal or even subnormal. By the vagina we get the impression of fulness in the pelvis without being able to feel a well defined tumor. Should the patient soon recover from this condition of collapse and the symptoms abate, it is often only a short interval before collapse again takes place. With the aid of a history of irregularities in menstruation we have now little difficulty in making a diagnosis of a ruptured tubal pregnancy though it is nearly impossible at this moment to distinguish a tubal abortion from rupture, since both accidents are principally characterized by the signs of severe and repeated hemorrhages. Although it may often be difficult to differentiate an ectopic gestation before its rupture from a pyosalpinx or an ovarian abscess, it is comparatively easy to do so after the rupture of either. In the latter instances the condition just described is based solely on shock, no active hemorrhage having taken place; in a few hours the signs of acute shock will have disappeared and are replaced by those of acute sepsis.

Luckily not all of these women die in consequence of tubal rupture or abortion. A number of them, I am glad to be able to say, quite a large number, recover from this most serious and apparently hopeless condition. The escaped blood coagulates and plugs the bleeding vessels by mere pressure. A peritoneal irritation caused by the sudden traumatism becomes a localized peritonitis and results in the shutting off of the coagulated blood from the free cavity and forms the so-called retro-uterine hematocele. As a rupture of the tube within the folds of the broad ligaments and consequent collection of blood extraperitoneally, is a rare occurrence, I refrain from going into the discussion of its clinical aspect and will content myself by saying that if it occurs, its symptoms are surely not so alarming and only seldom call for our interference. This is probably the reason that we so rarely have the opportunity to study this condition either on the operating- or the dissecting-table. In its recent state the retro-uterine hematocele is easily recognized, especially if the history gives any of the points already dwelt upon. The uterus is usually pushed forward, the mass fills the pouch of Douglas sometimes to such an extent that the posterior vaginal wall bulges very low down; while above the mass extends not infrequently beyond the brim of the pelvis. It appears soft, not fluctuating, immovable, and tender, As time passes this tumor of coagulated blood becomes tenser, harder, and very much smaller. The effused serum is absorbed and the clot begins to organize. The facility of recognizing the condition decreases with the length of time elapsed since its development. After months have passed the memory of the patient fails to reproduce the exact circumstances of the former illness, severe as it may have been. Irregularities in the menstrual flow, pains, and everything else which might lead us to the right path are forgotten, a hard mass in the pelvis is all we find, whose relation to the uterus and appendages we are unable to define minutely. While bearing in mind all the possible pathologic conditions we are now able to make our diagnosis only by way of exclusion, or may be able at most only to confine the number of possible conditions within small limits.

In most cases the expulsion of the ovum into the peritoneal cavity, be it through a ruptured tube or through the distal end of the tube, is not survived by the fetus. Occasionally, however, for some reason or other, rupture of the gestation-sac is not followed by the death of the fetus. In these cases with the lapse of time the diagnosis becomes less difficult. As such cases are not very frequent I shall give the history of the only one I have been able to observe:

Mrs. S., twenty-five years of age, had had one child four year before and three miscarriages, all at the

beginning of pregnancy. Menstruation regular, always more or less profuse. She had menstruated just three months before her admission to Mt. Sinai Hospital on August 11, 1894, but had noticed that the flow was decidedly less than usual. About ten days afterward a bloody discharge was seen only for a few hours or so. With the exception of slight general disturbances which the patient had experienced during each of her pregnancies she was perfectly well until three weeks before admission. Then on performing some household duties she was suddenly seized with a sharp, intense pain on her left side, which caused her to faint. A few hours afterward the pain had ceased and the patient felt well until another similar attack two days later. Within the next three weeks she had three more attacks, after each of which she had fainted, and was unable to move for some time afterward. Slight uterine flow had accompanied the first attack and had not ceased since. When admitted she presented the picture of extreme anemia; radial pulse hardly to be felt, rapid; the abdomen distended, very sensitive to the touch. Bimanual examination revealed an enlarged soft uterus behind the symphysis. To the left of it a mass of irregular shape, but apparently as large as a fetal head, slightly movable, giving a boggy impression in some places, decided fluctuation in others. Fluid in the peritoneal cavity was easily detected. In spite of the miserable general condition of the patient I decided to operate at once. Under narcosis fetal parts could be felt through the abdominal wall. On opening the abdominal cavity about two quarts of dark fluid blood escaped; the left tube, the seat of the placenta, was wide open, showing still bleeding vessels in its torn walls. The whole mass was covered by adherent gut and omentum; the fetus was surrounded by intact membranes and made slight movements even after its removal.

On reviewing all the symptoms and signs of tubal pregnancy in its various stages it will readily be seen that the difficulty of recognizing the condition changes with each case; that in some of the unruptured cases we are able to make a positive diagnosis with the help of an exact history, and the physical signs elicted by a thorough examination, and that in other cases we are unable to make a positive diagnosis because of the absence of typical symptoms and must be content to describe the condition rather indefinitely as one of "supposed" or "probable" ectopic gestation. When we consider the peril impending over this class of patients, when we think of the grave danger which threatens them in case of the development of some complication, the mere fact that we suspect (on some substantial basis of course), the existence of a tubal pregnancy is sufficient for practical purposes, for it puts us in a position to serve best the interest of our patients, than which there is of course no higher duty in our profession. I do not deny that we may frequently find that we have erred, but by these errors we will never harm our patient. But if we only once make a correct diagnosis we have the supreme satisfaction of knowing that we have saved a possibly doomed life, certainly one menaced by grave peril. I can give no better illustration of the dangerous position of a patient afflicted with tubal pregnancy, left to its natural course, than to refer to the statistics of cases collected by Schauta up to the year 1890, according to which out of 161 patients in the first half of pregnancy not interfered with, 132 died and only 29 recovered.

Little wonder indeed that there is a daily increase in the number of followers of that author who advises us to consider an ectopic gestation in the same light as a malignant growth and to remove it at the earliest possible moment. I personally have always adhered to this rule and have never tried to substitute for a surgical procedure any of the so-called simpler and less dangerous therapeutic measures, such as the galvanic current or the injection of morphin or other chemicals into the gestation-sac. While I do not for a moment doubt the possibility of these agents doing the required work of killing the fetus, I have good reason to believe that with the death of the fetus all danger from hemorrhage has not passed. I also believe that under these conditions the chances of the occurrence of secondary infection are greater. Once the diagnosis of an unruptured tubal pregnancy is established or even reasonably suspected, it is, I believe, in the best interest of the patient that the gestation-sac be removed as soon as circumstances will permit. Should there be a mistake in our diagnosis it has no further significance than that the patient was operated on perhaps somewhat sooner than she might have been with a correct diagnosis; for it is only existing pathologic conditions, which require removal sooner or later, that can be responsible for our error.

For the removal of a pregnant tube I have heretofore employed the abdominal incision, but in the light of wider experience with vaginal work, I think there are cases in which the tumor lies low in the pelvis, which can more easily be removed by an incision through the posterior fornix, in the same manner as we operate for the removal of small, freely movable ovarian cysts. The vaginal route, if practicable, is not only less dangerous for operation, but it also obviates stitch-hole abscesses so often encountered when the time for proper preparation, particularly of the skin, has not been allowed.

Our position is by no means so well defined and clear when we have to deal with a tubal abortion or a ruptured tube at the time of or soon after its occurrence. Still, considering the fact that in the early months of pregnancy this event is seldom, if ever,

followed by a single fatal hemorrhage, but that repeated attacks of shock and loss of blood are the rule, it seems only logical in these cases to resort at once to surgical procedures, to control further hemorrhage by opening the abdominal cavity and ligating the affected organ. It is but a natural feeling that in some desperate cases we should shrink from hastening the end by our interference; but as surgeons we must be free from such sentimentality. There are too many cases reported, where operations performed on moribund women have restored life, to allow us to watch the approaching end without having tried to avert it. Even should some patients succumb on the operating-table, we at least have the satisfaction of not having contributed to that end by a sin of omission.

Vigorous and continuous stimulation by all the means at our command is of course self-understood. Infusion of normal salt solution into the circulation has been so beneficial in its results that it ought always to be among the first therapeutic measures resorted to in these cases of extreme loss of blood. The apparatus for its application ought to be at hand; in desperate instances a vein may even be dissected out before operation, so as to enable us to infuse without loss of time, should that measure be indicated. I have always treated retro-uterine hematocele, after all the signs of active bleeding have disappeared, with wide incisions through the cul-de-sac and drainage, and have every reason to be satisfied with the result of this simple procedure.

Having reviewed thus somewhat in detail the diagnosis and treatment of this most serious and grave phenomenon, allow me to call your attention once more to the extreme importance of a correct diagnosis in this class of cases, and to urge that when an absolute diagnosis is impossible or difficult, that there is no condition in which the use of the knife is more justifiable. So many lives have been uselessly sacrificed in the past by the lack of recognition of this ailment, that we should try to make it a point of professional pride that, when the patient is seen before every hope has vanished she shall no longer be left to die because of our timidity.

There is one point left for me to insist upon, and I do so only because I have frequently seen the evil results accruing from it. I refer to the indiscriminate use of the curette upon women who are suffering from metrorrhagia, the curettement being accomplished often without a vaginal examination, or at least without a thorough one. I have dwelt sufficiently upon the symptomatology of tubal gestation to make it clear, I hope, that a metrorrhagia of some character is a constant accompaniment of the condition. It is always well, therefore, to bear this possibility in mind when called to see a woman from whose symptoms a probable diagnosis of "abortion" would be made. A careful, painstaking examination, even in the absence of a clear history, will frequently enable us to avoid the error of mistaking a tubal for an ended or partially ended uterine pregnancy. It should no longer happen that a woman suffering from an extra-uterine pregnancy should have her uterus curetted, packed with gauze, and be compelled to take hydrastis or ergot in heroic doses; for sooner or later, the true condition of affairs is bound to manifest itself, and then, when it is perhaps too late, the physician will find himself face to face with the gravest of emergencies. I said "It should no longer happen," and I am confident that as further study is given to the consideration of irregular uterine hemorrages by the general practitioner, the routine treatment of uterine and tubal diseases, and particularly of the pathologic conditions under consideration, will be relegated to the oblivion deserved, and that each case will receive that therapeutic application which our increasing skill in diagnosis and technic demands. Let me urge upon those of you who are in general practice, then, you who are the first to see and to examine these patients, to use your skill to the utmost, to abolish the routine treatment of hemorrhages from the uterine cavity and to restrict the use of drugs which cause uterine contractions to their proper spheres. Then I am certain that reports of cases of ectopic gestation will grow more plentiful in the same proportion as "deaths from internal hemorrhage" become more rare.

A FATAL CASE OF AFEBRILE ACUTE ENDOCARDITIS.

BY CHARLES O'DONOVAN, M.D.,
OF BALTIMORE, MD.

ON October 20, 1895, I was asked to see B. D., white, nineteen years of age, an unmarried man, engaged in teaching in a large school for boys. I found him to be rather thin and pale, but fairly well nourished considering his indoor work and the fact that he took very little exercise. His family history was good, except that his mother suffered frequently from severe attacks of rheumatism. He had himself always been healthy, though never robust. He was in bed and complained of severe pains in the abdomen, especially on the left side, just over the descending colon. His heart and lungs were sound at that time. His pulse was 84, and temperature 98.4° F. I examined his abdomen carefully, but failed to detect anything wrong. I ordered castor oil, to be followed in the morning by a moderate dose of Epsom salts. The next day he was much better, his bowels had moved freely, and his pain was gone. He complained, however, of feeling quite weak. I advised him to get up and to re-

turn the day after to his class, meanwhile taking care that his bowels should be regular, and ordered a light but nutritious and easily digested diet of eggs, milk, toast, broth, and light meats. I saw him next on October 28th, one week afterward, when he came into my office, complaining no longer of pain in the bowels, nor of any pain, but only of an intense weakness and a sense of constriction over the region of the heart. The change in his complexion was very marked; he had grown pale and ashy. His pulse was 96, but jerky. Auscultation revealed a murmur indicating aortic regurgitation, not as well defined as in an old case, but seeming to be caused by a very trifling insufficiency of valve action. All the other valves acted properly. He was ordered to bed as soon as he got home, and was given 20 grains of bromid of soda every four hours.

October 29th, 11 A.M. Pulse, 90; temperature, 98° F. The sense of constriction is gone; his appetite is good, and his bowels regular; he slept well; he has had no fever nor chill, yet the aortic regurgitant murmur is much more distinct, and a slight murmur begins to be apparent synchronous with the systole. Rest alone is ordered. October 30th, 11 A.M. Pulse, 90; temperature, 98⅕° F. His pulse is quite weak and compressible, and his temperature is reported to have been 97° F. at nine o'clock last night. The patient has been very comfortable; eats and sleeps well, and cannot realize that he is ill at all. Inside the heart, however, decided changes are taking place. The systolic murmur has become quite loud and rough, and the aortic murmur changes in character daily; the action of the heart, as a whole, is decidedly weaker.

October 31st, 11 A.M. Pulse, 90; temperature, 98° F. Feels very well. Slight endocardial changes since yesterday, but today could be made out for the first time a friction sound in the pericardium near the apex of the heart. Two coats of tincture of iodin were painted over the heart. Urinary analysis to-day showed neither albumin nor sugar. November 1st, 11 A.M. Pulse, 84; temperature, 98⅖° F; 9 P.M., 99⅖° F. About as yesterday; feels very well; pericarditis a trifle more pronounced; endocarditis but little changed; pulse weak still, showing some myocarditis; no chills; eats and sleeps well; no sweating. The iodin was continued. November 2nd, 11 A.M. Pulse, 84; temperature, 99° F.; 9 P.M., temperature, 99⅕° F. The aortic murmur seems less loud and much overshadowed by the systolic murmur, which is becoming louder and rougher daily. Pericardial friction sound is diminishing in intensity. Feels very well until he tries to get out of bed for anything, when his weakness becomes very apparent. Ordered to-day 40 drops of syrup of the iodid of iron three times a day, together with strict rest in bed. November 11th. The aortic diastolic sound is an undoubted valvular lesion. The systolic murmur seems to pervade both ventricles, and not to be limited to the location of the valves alone; there is also a presystolic *bruit*, all of which seems to indicate a general roughness of the ventricular endocardium. The sound of valve closure is sharp and fairly well defined, so that at the present there seems to be little or no mitral regurgitation. The systolic sound is, however, quite loud and unmistakable. There is no pericardial friction sound. His general condition is excellent; he is still in bed. The pulse is 84, stronger in tone, and fuller in volume. Urine, acid; specific gravity, 1027; no albumin; no sugar. The iodin was discontinued at the disappearance of the pericarditis.

The first thing that strikes one in studying this case is the remarkably slight elevation of temperature that was observed. The patient was a very intelligent young man, and had been carefully watched by a friend who lived in the same house with him, and who had access to him at all hours. They were both instructed to be on the lookout for any chill or apparent rise of temperature, and to use the thermometer at once, leaving it for my inspection at the next visit. I have every reason to believe in their ability to carry out my instructions, yet the highest temperature that I found was 99⅖° F., and, on the contrary, it several times fell below the normal, going to 97⅗° F. at one time. This makes one suspect that the murmurs might be of hemic origin rather than due to an endocarditis. I was myself inclined at first to consider them so, but no one could listen to the harsh, blowing, and churning sounds produced just beneath the ear without feeling sure that they arose from a roughened endocardium, and not from any altered condition of the blood. The changes, too, from day to day, increasing in intensity with the development of the disease, and now slowly subsiding, but with two distinct murmurs, readily located in the ventricles and at the aortic valve, make the diagnosis even more certain. Additional testimony is added by the intercurrent pericarditis.

In the most severe form of endocarditis the heart has been proven to be invaded by streptococci, staphylococci, and pneumococci, but other organisms have been found also. It may be that lighter cases may arise from invasion by less malignant organisms, many of which escape detection altogether, or are ascribed to intercurrent rheumatism or other diseases. This patient presented no sign of rheumatism, nor of any of the other diseases in the course of which endocarditis is usually anticipated. Certainly in this case the temperature presented no satisfactory ratio in comparison with the existing heart trouble. While the man was up and at his work he was very weak, and grew daily weaker at a rapid rate. After he was put to bed and kept under careful observation the intracardial changes from day to day were very marked, and each indicated the rapid proliferation of new tissue

and considerable roughening of the surface of the endocardium. Yet, with it all, no fever appeared; and, moreover, as soon as the extra strain, induced by the erect posture or by exercise, was removed from his heart, he experienced at once almost entire relief. The sense of extreme weakness which led him to seek advice, and the dyspnea that was not oppressive but was becoming so, and the very disagreeable sense of constriction about the thorax, all were relieved within twenty-four hours after he went to bed. And from this we may see clearly the most important indication in the matter of treatment. He was given a little bromid because he was quite nervous about his condition, but he took it only for about twenty four hours. After that he had no medicine; nothing but rest. When the pericarditis made its appearance enough tincture of iodin was painted twice a day over the entire region of the heart to burn the skin a little, but as soon as the pericarditis yielded this treatment was stopped. The case progressed so satisfactorily that no further treatment was indicated so far as the heart alone was concerned, but because of the consequent anemia it was thought advisable to give iron in some form, and for that reason the syrup of the iodid was given in 40-drop doses. Already I think I can perceive that the heart is beginning to accommodate itself to the new condition of affairs. I think that he will recover with a damaged aortic valve, but I hope that his mitral and tricuspid valves will entirely escape. At present there seems to be very little disturbance with their function.

The first part of this paper was written while his case was under treatment for the purpose of calling attention to the fact that serious endocarditis can exist with but slight elevation of temperature, and this, I thought at the time, was the only interesting feature about the case. The man at that time was tractable and obedient, and gave every promise of a satisfactory result. Under advice he continued in bed, and improved slowly but surely, so that by December 25th he was allowed to be up and about the room for a short while each day. He was still excessively weak and anemic, tiring very quickly when out of bed, but feeling perfectly well as soon as he lay down again. His appetite continued to be very good, but he assimilated badly and gained strength very slowly. His temperature was $98\frac{2}{5}^{\circ}$ F. in the morning and evening. He still took the syrup of the iodid of iron in 10-drop doses after each meal. The valves of both the aorta and pulmonary artery showed disorder, giving rise to distinct regurgitant murmurs at each valve. The other valves were all right, and the peculiar vibratory churning sounds in the heart had by this time entirely ceased. He was allowed to walk about the house, being cautioned not to overtax his strength. He behaved very well until January 3, 1896, when, for his first venture out of the house, he went into the country some thirty miles by rail, to the funeral of a friend. The weather, at that time, was intensely cold. The next day I was told that he had returned to his work as school-teacher, saying that he felt perfectly well, that he had stood the fatigue of the day before without harm, and that he felt that he might as well be free from any restraint. I predicted then his sure relapse, and warned his friends of the suicidal folly of his action. I must acknowledge that at the time I had little credit for my prediction. I did not see the patient again until March 2, 1896, two months after his emancipation. Then he came to my office, complaining of feeling very weak and tired after his classes. He looked very thin and white. While sitting in a chair his pulse was 126, and it quickened very much when he stood up or walked. He was not aware of any chills or fever. His pulse impact was very fair, but the arterial tension was very low and the artery easily compressible. He had some twinges of rheumatism in his right leg. His appetite was gone. He had a constant short, hacking cough, with little expectoration, which became more frequent and annoying when he lay down, especially at night. Examination of his lungs revealed nothing abnormal, but in his heart the change was marked. The whole organ seemed filled with a seething, churning, fluid, in which the valvular sounds could not be made out. It was as if all valvular action was lost. I gave the gravest prognosis, and advised him to give up everything and go to bed at once for a prolonged course of rest and treatment. He preferred to go to a hospital, and accordingly went that day to St. Joseph's Hospital, where he continued to grow worse until he died, about a week later.

One point arises that is of interest. How long should an actively diseased heart be spared? Can any rule be laid down for the length of time that such a person should be kept in bed? As much as anything else, this case is interesting for the complete answer that it gives to these questions, showing the utter futility of making any certain rules for such matters. In no case can one foretell the length of time to be passed in bed; each case must be studied on its own merits. Patients with the lightest cases do not invariably recover, the heart muscle being frequently weakened out of all proportion to the gravity of the manifest symptoms, as in the case here recorded. The temperature-chart does not give the best index to the gravity of the case. The study of the pulse in its force, its regularity, and its rapidity is a wiser course. Watch the effect on

the pulse of effort, the difference between standing, walking, or lying down. Until the heart is able to bear up against the varying strain of these different conditions the affair may still be considered serious. If in doubt it is better to be over cautious.

WAR ARTICLES.

NEWS OF THE WEEK.

THE transport "Olivette," with 262 wounded and convalescent soldiers from the trenches before Santiago on board, arrived in New York harbor on July 16th. One hundred of the wounded were at once transferred to the Marine Hospital at Stapleton, Staten Island, 50 to St. Peter's Hospital, Brooklyn, and 54 to the Long Island College Hospital, Brooklyn, the 58 convalescents being taken to Governor's Island. While all the men seemed in excellent spirits and rapidly gaining in health and strength, the appearance of all as far as clothing was concerned was most deplorable. Most of them were literally in rags, and not a few were without covering for their feet. Among the whole 262 there was not one complete uniform, owing to the fact that as fast as the wounded were taken from the firing lines to the field hospitals their clothing was cut off so as to get at their wounds, and when they were in condition to be moved they were hastily clad in whatever scraps of raiment came first to hand. This, in most cases, was clothing taken from the dead on the field or from those who died of wounds in the hospitals. Unfortunately, no provision was made for clothing the men when they were placed on the transport. It is expected that an abundant supply of clothing will be furnished to them at once, the Woman's War Relief Association and other similar organizations having volunteered to supply all that is necessary. Very few of the men had any complaints to make of their treatment, and all apparently regarded the hardships they had undergone as a matter of course. The uppermost thought in the minds of many, not too badly wounded for future service, was the question of when they would be well enough to get to the front again. It is probable that the next boat load of wounded soldiers brought from the front will be taken to Bellevue Hospital, where 450 vacant cots have been placed in the Sturgis Pavilion for the use of the United States Government.

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Alleged lack of sufficient food furnished by the Government to the Volunteer troops awaiting transportation to the front has resulted in mutiny during the past week among the members of the Third Wisconsin Regiment at Charleston, S. C., and the recruits for the Seventy-first New York at Camp Black. Three men of the Seventy-first fainted when on guard duty as a result of lack of nourishment. Since going into camp but two meals a day have been furnished, and these have consisted of coffee and bread only, the supply of the latter in a number of instances proving entirely inadequate to the demand. This condition of affairs undoubtedly is the fault of the Commissary Department at Washington, and it is to be sincerely regretted that the steps necessary to obtain proper food for those who are to risk health and life for their country are so hedged about by red tape as to render the hope of immediate relief uncertain.

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The attitude assumed by the Cuban soldiers at Siboney and El Caney in absolutely refusing to perform their share of the labor necessary for digging intrenchments, making roads, transporting artillery and supplies, etc., such work being to their minds unsuited to free men, may afford an indication of the condition which will face our Government when the management of Cuba falls to its hands. It will be remembered that the Southern negroes, when newly freed from slavery, had very much the same idea of freedom. It meant to them freedom from work, freedom to pass their days in one long season of "*dolce far niente*," and especially freedom to draw upon the United States Commissary Department for food, clothing, and every necessary.

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It took a generation or more to educate the Southern negro into the meaning of the word freedom and it will take as long to teach the Cubans that without labor their incomes will be slim and their bill of fare much abbreviated. The situation and outlook are not depressing, however. Capital is already waiting in abundance for investment in the fertile tobacco and fruit lands of Cuba; men from "the States" will be sent by thousands to perform the necessary labor, and example will soon lead the natives to follow the course of the Northern wage-earners.

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Was there method in the continued requests for delays and truces requested by General Toral ostensibly to allow him to consult his home government regarding the surrender of Santiago? Spain's strongest ally is disease, and she knows it well. Each day of delay brought yellow fever nearer as a reinforcement. Every ragged, unclean, starving outcast from the city who came to beg rations of our men helped to spread the seed of contagion. It would be illegitimate warfare to poison the water-supply of

Santiago; what then is the ethical status of the spreading of a malignant contagion throughout an army of men in peculiarly fit condition for its most effective work?

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More alarming than any story of battle on land or sea is the report of cases of yellow fever among our soldiers at Santiago. Conditions are ripe for its deadly harvest. The men have been working almost to exhaustion in intrenchments of newly turned-up earth under a scorching sun, alternating with tropical downpours which drenched them to the skin. True, careful rules have been promulgated for their direction in matters of hygiene and diet, but as we have before suggested, it is one thing to formulate rules for personal habits and quite another matter to enforce them. Fortunately, the facilities for caring for the fever patients, while perhaps not ample, are still wonderfully complete considering the time available for preparation, and in Drs. Sternberg and Guiteras there is embodied the practical knowledge of the world in the handling of this dreaded pest, not only as to curative treatment, but covering measures to prevent its spread.

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Dr. Alvah H. Doty's suggestion that yellow fever patients be brought by transports directly to New York City or other Northern hospitals sounds like practical common sense. As he points out, New York is north of the fever belt, its hospitals are efficient and experienced in handling great numbers of sufferers from contagious diseases, and its quarantine regulations are ample to guard against any spreading of disease. Conversely it would certainly be a grave mistake to take yellow-fever patients or suspects to any port or hospital in the Southern States, where climatic conditions render necessary only the sowing of the seed to start an epidemic of unknowable extent and severity.

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Now that Santiago has fallen the Government evinces great wisdom in withdrawing our soldiers, with the exception of a few regiments of immune and acclimated troops to "hold our winnings," until fall, if necessary, before continuing active campaigning against Havana and the remainder of Cuba, and the men will heartily welcome a removal to the comparatively cool climate of the States. As we go to press, the negotiations for peace are becoming the subject of newspaper talk to an extent which would indicate that the end is near and that the remaining conflicts will be waged by diplomats instead of by army and navy, a consummation devoutly to be wished.

WINDS AND WEATHER IN MANILA.

BY JOSEPH EARLE STEVENS,
OF BOSTON.

Now that our soldier boys are going to Manila and our merchants beginning to feel that Admiral Dewey has won for us a new El Dorado, a natural curiosity is aroused as to what are some of the ordinary conditions of existence prevailing in the far off Philippines. What is the weather like out there? How do the people dress? What is there to eat? Is it healthy? and a score of similar questions are daily asked of me as a result of the fact that I kept house in Manila for the best part of two years and took numerous excursions into many parts of the Archipelago.

More or less statistical and descriptive matter has been written on the Philippines since the guns of our fleet silenced the batteries at Cavité and sunk the Spanish ships that in my day used to swing peacefully at anchor off the breakwater, but for the reason that few correspondents have lived long in the capital some of the simple things of everyday life have escaped their attention.

As ought now to be known the climate in Manila is hot, though not unhealthy, and persons of ordinary constitution who are not especially subject to fevers or stomach troubles, can live there with equanimity. I take Manila as a standpoint, for just as France is Paris, so are the Philippines Manila, and everything feels the influence exerted by the capital. From noon until three o'clock each day the mercury visits the cross-bars on the thermometer lying between 90° and 95° F., except at such times as the heavy clouds of the rainy season shut off the sun's attentions and keep it 5° or 10° below. Fortunately, the nights are rarely uncomfortable, and 85° F. is very high for the temperature of one's bedroom. In the winter months, that run, as with us, from November to March, I have often shivered on the way to an early morning tub, as the Englishmen call it, with the mercury at 70° F., and in the hours before sunrise temperatures of 60° have even been recorded. The late afternoons of the winter months are as cool and delightful as one could wish, and it is only the hot, dry days of March, April, and May —when the fresh breezes of the southwest monsoon have not been fairly incubated—that the continued heat becomes annoying. The spell is broken, however, by the heavy thunderstorms which roll along in the afternoons of June and July, and with the coming of the strong southwest wind the rainy season begins. Not that it rains continuously, but that every now and then there will be seven or eight stormy days, to be followed, perhaps, by as many dull but fair ones. Those are the times when one's

boots grow moldy and one's tweed suits have to be hung out on the clothes-line at the first suspicion of sunshine.

As a climax to the wet season come the typhoons, which are more popular in the months of August and September than any other, and these fierce circular storms seem to blow or wash every atom of disease and dirt out of Manila. These storms, which are a terror to mariners on the China coast as well as to the inhabitants of Japan and the Philippines, come to life away down in the Pacific to the southeast of the Archipelago, gyrate about till they gain strength enough to swirl up along the Cordilleras on the back coast of Luzon, cut through a gap in the mountains some 100 miles north of Manila, and then sizzle over to Formosa and the China coast on their destructive voyages to Japan.

The typhoons, anywhere from 50 to 200 miles in diameter, move forward at a slow rate of perhaps only 10 or 12 miles an hour, but the winds inside the circle often acquire a rotary speed of more than 120 miles an hour. Manila, owing to her position behind the mountains of the east coast, below the gap through which these disturbances are wont to cross into the China Sea, rarely gets more than a good taste of the blow, but now and then a typhoon which has lost its way will sail squarely across the town and carry off the roofs of a thousand or two houses in its efforts to find out where it is bound.

The excellent meteorological observatory in Manila, which hitherto was conducted by the Jesuit priests, has had the reputation of being the most complete institution of its kind east of Naples and west of Washington, usually gives warning of the approach of these typhoons a day or so before their actual arrival, and the town is therefore ready to receive them. But once in a while, as in the case of the great storm back in the eighties, the elements give an exhibition without previous notice. The last typhoon, which almost razed Manila to the ground, came from a clear sky, and was so narrow in diameter and moved so fast that in four hours it had come and gone. It struck the city at about 10 A.M., and the deadly gale unroofed houses, blew buildings bodily over, picked up carriages and carried them up the streets, and prostrated trees and wires in all directions. Shortly before noon the wind and rain ceased, the sun came out pleasantly, and every one thought danger was over. But it was merely the calm spot, in the center of the cyclone's vortex, passing over the city, and by 12.30 P.M. tremendous squalls were coming from an exactly opposite quarter to those of an hour before. The roofs which were not carried off by the earlier winds were ripped up like so much paper under the force applied in the new direction, native houses, sheltered, perhaps, from the northeast, were carried off by the terrific gale from the southwest, big logs from lumberyards were caught up and hurled across the River Pasig, and every ship in the bay—big or little—broke adrift, to be washed high and dry on the beach.

Happily, Manila is not often visited by such disturbances as the one above recorded, but nevertheless it is not beyond the bounds of probability that the foreign resident may some day suffer a similar experience to that encountered by my friend the Englishman, who, after a heavy blow, returned from his office to find only his upright piano standing on the spot where he had left his light-built house in the morning, the rest of his things having journeyed on to the next village.

With the blows and rains of the months from July to October come the floods, and as Manila proper is scarcely more than a foot or two above high water, the land is often covered with the overflow of the Pasig, which is unable to handle all the water that is dumped into it by the big lake—Laguna de Bay—sleeping up country at the foot of the hills. This latter, shaped something like an exaggerated "W," forty miles from point to point, is a vast slop-basin, into which run all the washings from the mountain slopes that surround it. It lies almost four feet above the level of Manila itself, and its only outlet is the River Pasig, which, nine or ten miles in length, wobbles down through the very heart of Manila to the bay, and carries off the surplus water discarded by the lake. For years and years the inhabitants of the capital have long thought that a sudden earthquake would send this vast mass of water tumbling down over the low land, which exists only on that side of the lake nearest to Manila, and every successive flood only seems to make them feel that their city is literally between the devil and the deep sea.

Curious as it may seem, the city is never healthier than during these periods when boats take the place of carriages and dry ground is at a premium. For Manila is practically without a drainage system, and what is not looked after by the pigs or dried up by the hot sun must be gotten rid of by other means.

To conclude, then, the climate of Manila is not unbearable. In the winter months the breezes of the northeast monsoon, which blows for the best part of five months, keep the mercury from flying high, and bring clear days and cool nights. In the lull between the monsoons comes the hot weather of March, April, and May that is harder to bear, but with the advent of the southwest trades, the sea breeze takes heart, and with its friends, the clouds and

rain, makes one forget the temperature in his efforts to keep the mold out of his clothes or the roof on his house.

YELLOW FEVER; ITS DIAGNOSIS AND TREATMENT.

BY J. EDWARD STUBBERT, M.D.,
OF NEW YORK;
LECTURER ON TROPICAL DISEASES, UNIVERSITY BELLEVUE HOSPITAL MEDICAL COLLEGE; LATE CHIEF SURGEON OF THE NICARAGUA CANAL COMPANY.

THE despatches from Surgeon-General Sternberg, announcing the presence of yellow fever among our troops in front of Santiago, have caused widespread anxiety among American homes. While we have no reason to doubt the fact of the presence of the dread disease in our camps, there is considerable encouragement in the statement of Dr. Valiente that there is no especial danger from yellow fever along the southern coast, and that the prevailing fever in that section during the rainy season is of malarial origin. The reserve of Dr. Sternberg is well advised, and he undoubtedly recognizes the danger of the panic that is universally present in districts infected with yellow fever. In West-Indian districts yellow fever and malarial fevers are generally concomitant, and it is often very difficult for experts to determine between the former and pernicious malaria. Greater uncertainty and confusion will necessarily occur among our surgeons, most of whom have never had the opportunity of becoming familiar with the two diseases; therefore, considerable allowance must be made for the reports we see daily in the press of "additional cases," and a large percentage assumed to be of coast fever.

The yellow-fever germ depends for existence upon humidity, heat, and a certain amount of filth and unsanitary conditions. The bacillus icteroides does not live as a rule on high ground on sites exposed to sunshine and breezes. The means of infection in the present epidemic is probably to be located in the large number of refugees who were allowed to enter our camps; this was a mistake that cannot be remedied, but should have been foreseen, and will be a warning to the Medical Department of the Army in Porto Rico, and at other points in Cuba.

The questions before our surgeons at the present moment are: (1) prophylaxis; (2) diagnosis; (3) treatment. Prophylaxis should consist in an iron-bound quarantine absolutely controlled by the Medical Department. Red tape and bureaucracy may be feasible in delaying military movements, for the enemy may also be slow; not so with yellow fever; the Medical Department must be free to act promptly as necessity indicates. As far as possible negroes and immune troops should be used in and around Santiago; those not so classified should be placed in camps on elevations overlooking the sea when possible; if not, then on high points inland. There should be conveniently located suspect and pest camps; there should be a medical inspection every day, when the surgeons should carefully overlook every soldier, select out even mildly suspicious cases, and send them to the suspect camp until it be determined whether the case be one of malarial or yellow fever. At all points where patients have been located clothing, tents, brush, and everything else capable of providing a lodgment for the germ should be destroyed by fire or thoroughly disinfected. If such rigorous methods are employed there is little danger of the establishment of more foci of disease among our camps.

During the work on the Nicaragua Canal not a single focus of this disease was established along the Company's line, although yellow fever was present each year on the same coast directly north and south of the Company's headquarters, and there were daily arrivals of steamers and small schooners at the ports. On the Pacific Coast of Nicaragua each year yellow fever appears in the cities located along the line of railroad from Corinto. The comparative immunity on the Atlantic side was due undoubtedly to rigorous quarantine and prophylaxis, in the application of which the Medical Department of the Canal Company recognized no superior in taking orders or seeking advice. For bureaucracy yellow fever has no respect.

Diagnosis.—The scientific method of diagnosis by the agglutination tests are of great value, as Tonatre has said, in labelling the disease, but in camp work the greatest reliance must be placed upon clinical diagnosis. The serum test is more accurate on the second day of the disease than later, but there are clinical features which, to an eye accustomed to the symptoms of yellow fever, will infallibly establish the diagnosis in a vast majority of cases during the first day. Neither can the surgeon invariably exclude yellow fever on account of the presence of the malarial plasmodium.

Symptoms.—Some cases are ushered in by the historical chill, but all are preceded by rigors of more or less severity. In most instances the facial expression is characteristic, congestion of the whole countenance and suffusion of the eyes, accompanied by pain in the back and limbs, and very severe bilateral-frontal and postorbital headache. The initial temperature is usually about 102° F. and the average maximum, less than 104° F., is reached generally within the first six hours of the disease. The remission occurs sometimes on the third day, rarely on the fifth, generally on the fourth, and lasts, on an

average, six hours. The average length of the third stage is three days. Black vomit appears in most cases as early as the third day, but nausea is present from the incipiency of the disease. Decrease of the amount of urine is observed on the second day in nearly every case, and albumin on the third or fourth day. It will be found in large quantities in about 98 per cent. of the cases under observation, and will rarely be absent. In a number of cases treated by the writer the application of the heat test alone was sufficient to coagulate the urine into a solid mass that would remain in an inverted test-tube. The amount of albumin seems to have no relative effect upon the rapidity with which the urine clears up during the stage of decline. In most cases the albumin will disappear suddenly with the fall of temperature during the third stage of the disease, but in exceptional instances traces are discernible for some time during convalescence. Jaundice is by no means a constant symptom, and rarely is it present before the fifth or sixth day.

Constipation is found in most cases all through the disease, sometimes diarrhea supervenes during the third stage, and at times, where intense general jaundice is present, the defecations are pasty and clay-colored. In a majority of patients the mind will remain clear until the end of the disease, whether that end be reached in death or recovery. The pulse is generally slow, and there is a wide divergence between it and the temperature. Some cases are marked by great depression, intermittency of the pulse, algid surface, and during the third stage a great difference between the sublingual and rectal temperatures; the former was, in one patient of the writer's, 99.2° while the rectal was 102.6° F. Generally on the night of the third day or morning of the fourth the temperature drops *suddenly* three to four degrees, ushering in the stage of remission or quietude; at its close the temperature again rises to nearly the height attained in the first stage, and then in favorable cases begins to decline by lysis; in fatal cases the stage of remission is very short and followed by a high remittent temperature. In abortive cases, especially when the epidemic is on the decline, convalescence follows immediately upon the stage of remission. During the third stage, or that of decline, the temperature and pulse gradually approximate.

The disease most likely to be confounded with yellow fever in our Santiago camps is pernicious malaria; the following comparison presents their most prominent points of differentiation.

Dengue or break-bone fever is a disease having its habitat in warm climates, and has been confounded with mild cases of yellow fever. The reason is not apparent, for their clinical histories are distinct. The following table shows a comparison of the more prominent symptoms common to both diseases:

YELLOW FEVER.	PERNICIOUS MALARIA.
Headache bilateral-frontal, and post-orbital.	Headache generally unilateral frontal, and temporal.
Temperature and pulse divergent; temperature rarely higher than 104° F.	Temperature and pulse correlative; temperature generally 105° to 107° F.
Albumin present in large quantities early in the disease.	Albumin rarely present.
Quinin has no effect on the progress of the disease.	Quinin has a specific effect if given hypodermically and early.
Stage of remission on third or fourth day.	Remission not present.
Attacks new arrivals.	Generally history of chronic malarial infection.
Always history of exposure to infection.	No history of exposure to infection.
Black vomit appears on third or fourth day.	Black vomit appears within thirty-six hours.
Hematuria very rarely present.	Hematuria a marked symptom.
Liver unchanged.	Liver enlarged and tender.

YELLOW FEVER.	DENGUE FEVER.
Cephalalgia and nephralgia are the characteristic pains, and are constant.	Pain most severe in joints and muscles, and is *paroxysmal*.
Pulse and temperature divergent.	Pulse and temperature correlative.
The slowing of the pulse begins early in the disease.	The slowing of the pulse occurs late in the disease.
Congestion of face early in the disease. No edema.	Rash on face, followed quickly by edema.
Albuminuria.	Albuminuria absent.
Icterus.	Icterus absent.
Black vomit.	Black vomit absent.
No eruption.	Polymorphous eruption, followed by desquamation.

Treatment.—The mortality of yellow fever has been decreased considerably in recent years. General Sternberg's treatment has given the remarkably low death-rate of 15.9 per cent. in Havana, 7.3 per cent. in the United States, Brazil, and Cuba, and 4.7 per cent. in Florida. The average death-rates range between twenty and fifty per cent.

While awaiting the full development of the antitoxin of Sanarelli, our treatment of this disease must be expectant and symptomatic, together with careful nursing. All authorities agree upon the first two steps to be taken: Purge the patient with a single dose of one-half to a full tumblerful of castor oil; then produce profuse diaphoresis either by hot air or mustard pediluvia. After the first cathartic has acted freely, a gentle daily movement of the bowels should be maintained by the following:

℞ Magnesiæ sulph.
Magnesiæ carb. } aa . . 15.00
Sulphur precipitatis
Sacch. lactis } aa . . . 8.00.
Pulv. anisi
M. Sig. Teaspoonful once or twice a day.

This is very necessary to prevent constipation and secondary intoxication.

Diet.—Diet throughout the disease should be restricted to milk and Vichy in equal parts. During the first two or three days the Vichy may be taken alone if more pleasing to the patient. It stimulates hepatic circulation and renal secretion, and some be-

lieve that it dilutes or neutralizes the icteroid toxin. During the second and third stages the patient should be urged to take milk.

Antipyretics.—There will be great temptation to administer antipyrin or some similar drug during the first stage, but unless the temperature rises above 104° F., it would be unadvisable, because yellow fever is a cyclic disease that cannot thus be turned from its course, and because of the danger of cardiac depression in the second stage. Baths are of doubtful benefit, excepting for the comfort of the patient. The urine should be measured and examined twice a day, and at the first signs of suppression 1/100 of a grain of nitroglycerin given for two to three doses at intervals of six hours, and followed by digitalis and saline diuretics. Poultices are of occasional benefit. A cardinal point of treatment is to produce copious diuresis. If this be accomplished the patient will generally recover. The larger quantity of urine passed the smaller will be the percentage of albumin, and, therefore, in direct ratio, the less danger of death. Buanger-Ferand has recommended large enemata of cold water to reduce the temperature. Undoubtedly this would be one result of such injections, but a more important one, to my mind, would be the diuresis thus established. These enemata should be given twice a day in as large quantities as can be retained and absorbed by the rectum.

Nausea and Vomiting.—Most authorities are opposed to the use of emetics in this disease. However, the writer has seen the most gratifying results follow a single emetic dose of ipecac if given as soon as a *tendency to vomit* is shown in the first stage. If this be followed by copious draughts of tepid water until the stomach is well cleaned, and then $\frac{1}{8}$ of a grain of morphin given hypodermatically to quiet the stomach, the patient will feel much relieved, and thereafter will experience very much less nausea. This special treatment should never be entrusted to a nurse. Ipecac or morphin given at the wrong time are capable of great harm to the patient, but there is a moment, generally once only in the first stage, when their intelligent use seems to be indicated. It appears to abate severe gastric disturbances. Other symptomatic treatment for nausea consists of the use of $\frac{1}{4}$ of a grain of carbolic acid in one dram of peppermint-water every two or three hours, cracked ice, and sinapisms.

Morphin.—Much opposition is recorded against the use of opiates in yellow fever. In the abstract the objections are well founded, especially where there is much danger of anuria. There can be no infallible rule laid down, I believe, but the physician should be governed by symptoms, always bearing in mind the danger of suppression of urine. Given a case in which diuresis is well established, or even in which it is fairly copious, I believe the very occasional administration of $\frac{1}{12}$ to $\frac{1}{8}$ of a grain of morphin hypodermatically is not only justified, but indicated, to quiet the jactitations of the patients, and to relieve the nausea that does not yield to the other remedies suggested. If carefully watched there can be no danger to the patient, and the relief obtained does much toward conserving strength for the stage of depression. During the epidemic in Salvador in 1894 the German and native physicians steadfastly refused to administer morphin because theoretically wrong. The writer used it from two to six times in nearly every case. The results, eleven-per-cent. fatality, as against over forty-per-cent. fatality among the patients of the German and native physicians, would seem to indicate that practice is at times better for the patient than theory.

Stimulants.—Champagne is very universally used, as well as brandy. They should be given in small quantities, often repeated, and ice cold. Kola is strongly advocated by the French school, but I have seldom seen good results from its use, and it certainly is distasteful to the patient.

A summary of treatment may be, primarily, free catharsis and diaphoresis. Secondarily, constant avoidance of anuria and constipation, mild gastric and intestinal antisepsis, careful watching for and combating advance symptoms, and good nursing. Add to this Tonotri's excellent advice, "Battle to the last," and many patients who are apparently hopelessly ill may be saved.

THE ARMY HOSPITAL AT SIBONEY.[1]

By RAYMOND SPEAR, M.D.,
ASSISTANT-SURGEON, UNITED STATES NAVY, ON BOARD FLAGSHIP "NEW YORK."

THE army general hospital for the wounded and sick soldiers attached to the army before Santiago is situated at Siboney, about eight miles distant from Santiago. When a man is wounded at the front he retires to the rear and receives a first-aid dressing, and is sent to a divisional hospital; from here he is conveyed to the general hospital at Siboney by an ambulance. The roads are very rough and it requires a certain amount of strength to stand the journey, therefore, those who have been very badly wounded are retained at the divisional hospital until they are able to bear transportation.

The hospital is composed of wards made by plac-

[1] Surgeon Spear's paper here printed was mailed from the flagship "New York" on July 7th, but was delayed in transmission. It will be remembered that shortly after that date, by order of General Miles, Siboney was completely destroyed by fire on account of its unsanitary condition, and in order to lessen the danger of infection among the refugees and troops.—ED.

ing tents end to end; the operating-room is constructed in the same manner, and contains six operating-tables and baths for instruments, etc. The wounded are all taken into the operating-room as soon as possible. Here their wounds are dressed, necessary operations performed, a tag, upon which is written the patient's name and company, the injury, what was done, and when the wound requires a new dressing, is pinned to the clothing of each, and they are then sent to the ward and placed on a cot.

During the time this little operating-room has been in service more operations have been performed in it than in any other place of its size in the history of the world. Wounds of every organ in the body have been treated on the six tables around which worked Army and Navy, civilian, Red Cross, and Cuban doctors, assisted by Red-Cross nurses and Army hospital stewards and attendants. It was a novel sight to see difficult brain operations being performed by candle light in more than one instance.

The wounds treated were produced principally by Mauser bullets; others were inflicted by No. .43-caliber brass-jacketed balls, and still others were by flying pieces of shells. The wounds were very easy to distinguish; the small Mauser bullet many times made nothing but a small perforating wound, the tissues not being lacerated in the least. When they struck a bone the latter was either perforated, grooved, or splintered, but never badly, only a few amputations being required for this reason. The brass-jacketed bullet, on the other hand, lacerated everything it struck, soft and hard tissues alike. The injuries from the fragments of shell varied according to the size of the piece of projectile, from slight to severe wounds. The wound of exit of almost all of the bullets was larger than that of entrance. Many times, however, the exit-wound produced by a Mauser bullet was about the same size as the entrance-wound, and it was with difficulty that they could be distinguished.

A curious fact was the number of Mauser bullets that were found lodged in the tissues. Probably twenty per cent. did not penetrate deeply. This was contrary to expectation, the range and velocity of this ball being so great. It may be explained by the fact that the Spanish ammunition may have been old, or the leaves and grass through which many of the bullets passed impeded their course, or the elasticity of the living tissues may have had some effect on it.

Most of the killed received their wound in the head and abdomen. It is surprising what the human body can stand. In the hospital tents one can speak with men who have bullet wounds through their brains and hearts; soldiers possessing punctured lungs and livers walk about with little discomfort. There were quite a number of brain cases. These patients were all operated on, and so far have done remarkably well. Large pieces of bone and brain matter were frequently removed, with apparently little effect on the patient other than a beneficial one. There were a few cases of undoubted heart wounds, the subjects of which were getting along nicely.

Lung wounds were frequent, many patients proudly showing two separate punctures, and the only symptoms they presented were a little pain on breathing, and some coughing up of slight quantities of blood. Traumatic pneumonia has been very rare.

There were some penetrating wounds of the abdomen by the Mauser bullets that presented no symptoms whatever. These cases were rare, however, showing that most of those who received abdominal wounds had probably died, as they were not brought into the hospital.

The testicles and penis were not exempt from wounds, but the small bullet did not do very much damage in these localities. There has not been a case requiring castration or amputation of the penis up to date. The arteries did not escape the Mauser. There were quite a number of severed or injured arteries which resulted in traumatic aneurisms. These patients usually presented discoloration by effused blood in the surrounding parts, swelling, pain from pressure on the surrounding nerves, and a pulsating tumor.

The wounds of the bones were very interesting. The old bullet produced such shattering and splintering of the bones of the extremities that amputation was frequently indicated. The small, modern bullet makes amputation comparatively rare, resections and removal of splinters and drainage being all that is necessary.

There were many peculiar cases. One man was shot through the head, the ball entering his left ear and coming out just under his right eye, apparently not incapacitating him in the least. Another man was shot through the longitudinal sinus and cerebellum, and will live to tell all about it. On the other hand, there were men who were shot through both eyes, and will never see again. But these are the fortunes of war, and all must learn to bear them.

There was a small percentage of infected cases. This was due to the first-aid dressings which were applied. Some of the men being under fire could not have their wounds dressed for several hours, and these were the cases which seemed to constitute the large proportion of the infected class. If the wounds had been sealed with collodion immediately the proportion of infected cases would in all probability have been less.

AGUINALDO AND THE PHILIPPINE REPUBLIC —MEASLES IN THE TROPICS—A UNIQUE LOVE TOKEN—INCONVENIENCES OF AN INLAND CAMPAIGN.

[From Our Special Correspondent.]

WITH ADMIRAL DEWEY'S SQUADRON, OFF MANILA, PHILIPPINE ISLANDS, June 6, 1898.

THE situation here is becoming more complicated every day. The Americans are watching in vain for reinforcements, the Spaniards are scanning the horizon for signs of the four Spanish battle-ships which the Archbishop, in his last proclamation, declared were on their way, and the insurgents under Aguinaldo are talking of the new republic which is to be inaugurated under the protection of "the great American nation," as their leader calls the United States in his proclamation to the natives under date of May 24th.

Since my last letter I have spent some time on shore, and thanks to a smattering of Spanish, picked up in South America, have been able to make my way about Binondo and the outlying wards of Manila without molestation. Various subterfuges are resorted to by American newspaper correspondents to enable them to remain safely in Manila during the present panic. I know of one who passes himself off as a German from Berlin, and another who is supposed by the Spanish officers with whom he fraternizes to be employed by a French paper. Non-combatants are taking refuge at Cavité almost daily, and there are ten ships lying in the river waiting to carry away foreign residents when Dewey shall give notice that the bombardment of Manila is about to begin. What is to be done with the Spanish women and children is still a mystery, for they would not be safe in the interior, where the insurgents, flushed with the scent of victory in the air, can hardly be restrained.

The dignitaries of the Spanish Church, who doubtless fear that their occupation will be gone if the *ægis* of a great Protestant power like the United States is thrown around the ignorant and superstitious people on the fruits of whose labor they have fattened so long, are doing what they can to instil into the minds of their parishioners the belief that if Manila falls into the hands of the Americans all Spanish prisoners, including priests, will be put to death, the property of the Church confiscated, and the Protestant religion enforced at the point of the sword. Absurd as this may seem to an American, it is readily believed by the more ignorant subjects of Spain, for the reason that their country has for centuries waged war in just that way. With all due respect to the Roman Catholic religion, it is impossible to speak without condemnation of the Spanish Church as maintained in the Philippine Islands. Nearly $1,500,000 was set apart in one year for the benefit of the Church and its clergy, all this and much more having been extorted by the Spanish Government in fees, taxes, etc., from the poor, underpaid native toilers, while such public improvements as were absolutely indispensable were grudgingly accorded the munificent sum of $6000. Furthermore, the $1,500,000 given to the clergy and religious societies did not include the amounts paid to the priests for marriages, baptisms, indulgences, scapularies, etc., which are pocketed on the spot, and which amount during the year to a sum equal to that accorded to them by the Government. Considering the extortionate demands of the Church and the Government, and the petty peculations of every member of the Spanish official machine, is it any wonder that the down-trodden natives have rebelled at last against the rule of despotic and uncivilized Spain?

The Manila newspapers which, like everything else, are controlled by the Government, publish sensational stories about the "Yankee pigs" and the injuries they are supposed to have received in the battle of May 1st. Admiral Dewey is taking every precaution for the safety and welfare of his sailors. He has given orders that Cavité, now occupied chiefly by the insurgents and refugees, be made as sanitary as possible, and while a few cases of measles have broken out, as a rule the health of all is good. In the tropics measles is not the trifling infantile disease which it is in temperate climates, for here it ranks with smallpox and cholera in the estimation of the quarantine authorities, who will not open a port to any ship having a case of measles on board. This disease, which the inhabitants of a colder climate take little pains to avoid, and place in the same category with whooping-cough and other diseases of infancy, is so contagious in these islands and the percentage of death among its victims is so great, that a few cases among our soldiers would be really a more serious matter than a stranger to these latitudes would be apt to think.

The physicians accompanying the American troops to the Philippines may be called upon to treat several diseases with which they have had a very limited experience, or no experience at all. Among these may be mentioned what is called tropical abscess of the liver, elephantiasis, beriberi, etc. The former is not very common but is often fatal, the prognosis depending principally on the direction in which the abscess ruptures. Elephantiasis is encountered in its most virulent form. I have only seen one case of this and the victim was a most revolting object. Beriberi I have discussed pretty thoroughly in a previous letter. All of these diseases are more common among the natives than among the European

population, possibly because the latter are generally more cleanly than their darker-skinned neighbors.

These natives are very interesting, regarded from almost any standpoint, and some of their beliefs and customs must have come down to them from remote antiquity. There is an old idea, common to the people of many different races, that contact with a person's perspiration may excite the most passionate love. The attempt to attract a person of the opposite sex by means of the perspiration probably gave rise to a curious custom which prevails among the Philippinos. When two young people who are engaged to be married are compelled to separate for a time, they exchange articles of clothing, each believing that thus the faithfulness of the absent one will be assured. These articles are carefully treasured, being kissed and smelled of whenever an opportunity offers, and, whether by reason of some magnetic property with which the clothing of the person may have been endowed or by the odor of the perspiration as supposed, these keepsakes are said rarely to fail in the purpose for which they are given.

In speaking of the natives it is necessary to distinguish the Tagals, who occupy the greater part of Luzon and the smaller islands near by, from the Negritos who are of a much lower order of humanity and on some of the more remote islands are as wild as Hottentots. Stories are told of human sacrifices offered by these people to their heathen gods. Then there are the various tribes in the southern and the extreme northern parts of the archipelago, who are unlike both the Tagals and the Negritos. Each of these tribes has its own language, there being, it is said, as many as twenty different dialects spoken by the various native tribes. The Negritos in Luzon are mostly servants and laborers. These various tribes are of course mixed with each other, and in Manila and vicinity many of the natives have a trace of Spanish blood.

The principal followers of Aguinaldo are the Tagals and mixed descendants of Tagals, Malays, and half-castes, many of whom are well-to-do and a few educated; but the great mass of the population is ignorant and uncivilized and utterly incapable of self-government, not one per cent. of the inhabitants of these islands being able to read. If Aguinaldo thinks that he can form a stable republic out of such material, he is indulging in a wild dream from which he will soon be rudely awakened. The man seems to be quite ignorant of diplomacy, for more than a week ago he had a conference with the German Admiral on board the German flagship. A rupture between the Americans and the Philippinos is evidently what the Germans are trying to bring about; but if Aguinaldo should be so unfortunate as to estrange Admiral Dewey by his unwise actions, he might at once and forever say good by to his schemes for making himself President of the Philippine Republic. The expected arrival of our transports will probably put a new face on the whole matter. If, as we have reason to suppose, the troops are aided by the insurgents, or at least are not opposed by them, the taking of Manila ought to be an easy task. The Spanish are taking great pains to fortify the water front, but very little preparation has been made to ward off a possible attack from the land side. It is to be hoped that the city can be taken by Admiral Dewey and our occupation of the Philippines perfected without sending the troops to fight in the interior, as tropical warfare is something to which our soldiers are quite unaccustomed. A naval victory is one thing and an army victory is quite another. After Dewey had fought the greatest naval battle of modern times, in which he totally annihilated the Spanish fleet, the men on the ships washed their hands and ate their dinner with appetites whetted by the thought that not one comrade had been killed. If a battle of equal importance had been fought in the interior behind Manila, the killed and wounded would have been numbered in the hundreds.

If our soldiers are obliged to march any considerable distance, the dense tropical vegetation, the tough vines and briars will doubtless make their progress very difficult. Then there is the question of water, for the streams in the Philippines are so infested with leeches as to make drinking from them very dangerous. To swallow a leech is a very serious accident and one often followed by hemorrhage from the stomach, pains, and convulsions. It may be remembered that the soldiers in Napoleon's Egyptian campaign frequently swallowed leeches, with very disagreeable, and sometimes fatal, effect.

Soldiering in the Philippines will be accompanied by many inconveniences. Sleeping on the ground is not conducive to peaceful dreams in a country where snakes are as common as they are here and where myriads of tiny worms and insects drop on or crawl over the sleeper, some of the former having a disagreeable habit of crawling into one's ears. The natives have a superstition that the centipede can make its way through the ear until it reaches the brain and causes death. Of course this is not true, but there is no doubt that an insect in the ear may cause excruciating pain. These are only a very few of the many annoyances and dangers which our soldiers will be obliged to endure, and it is to be hoped that whoever has charge of the commissary department of the American Army will make some allowance for the climate and not feed the men on fat bacon three times a day.

CLINICAL MEMORANDUM.

GUNSHOT WOUND OF THE ABDOMEN: TEN INTESTINAL PERFORATIONS AND TWELVE PERFORATIONS OF THE MESENTERY; OPERATION; RECOVERY.

By GEORGE TULLY VAUGHAN, M.D.,
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G. A. F., white, male, aged thirty-one years, native of Virginia, was admitted to the Emergency Hospital during the night of May 26, 1898, having just been shot in the abdomen with a pistol. When seen by me, a little more than one hour after the shooting, his condition was very good. Pulse 84; temperature not taken; there was no nausea, vomiting, or evidence of shock; but the patient complained of severe paroxysms of pain in the abdomen. The wound was in the left side of the abdomen, about two centimeters (¾ of an inch) above the center of a line drawn from the navel to the anterior superior spinous process of the ilium, but a little nearer the navel. Blood was oozing steadily from the wound. It was impossible to decide from the symptoms present whether or not the viscera had been injured. Injections per rectum of gas or water were not made use of on account of the danger of forcing intestinal contents into the peritoneal cavity in case the intestine had been wounded. It was thought safer and more satisfactory to explore the wound with probe and finger, enlarging it as might be necessary for this purpose.

The patient having been chloroformed and the surface carefully cleansed as if for abdominal section, attempts were made to introduce a probe into the peritoneal cavity, but the effort failed, probably owing to the muscles having been contracted when perforated, their subsequent relaxation interposing sound tissue across the track of the ball. Accordingly the probe was introduced as deep as it would enter and the tissues were divided to this depth for a space of about six centimeters (2½ inches). The probe was then introduced at a different angle and the tissues again divided, when it was found that the probe entered the peritoneal cavity, its entrance being followed by a free discharge of blood. The incision in the skin and muscles was rapidly extended to about thirteen centimeters (5¼ inches) and the peritoneum incised, blood flowing freely from the cavity.

The first coil of intestine which presented was drawn carefully through the wound and examined. Not more than ten centimeters had been thus drawn out before a perforation was found, there being two openings, one of entrance and the other of exit. These were closed and further search made, the coils of intestine being surrounded by flannel cloths wrung out of hot salt solution and replaced at one end while they were being drawn out at the other. Eight openings were found in what was thought to be the lower part of the jejunum and two in the ileum. There were six perforations of the mesentery, or twelve openings in all, the wounds of entrance and exit in the mesentery being closed separately. The ten perforations of the intestine and twelve of the mesentery made a total of twenty-two openings. Twenty of these openings were closed by sutures; two in the mesentery were not bleeding and were passed over. A round sewing needle with fine silk was used, the mattrass suture introduced including simply the serous and subserous tissues exclusive of mucous membrane, thus approximating the serous surfaces. The line of sutures was transverse to the long axis of the intestine. The wounds in the mesentery were closed in the same way. In a few of the large wounds of the intestine, where the ball had evidently cut through the convex border of the gut, making a single, very ragged, large opening, instead of two small openings, two sets of sutures where used, the first to approximate the edges, and the second, the mattrass suture as already mentioned. In all other places a single row of sutures was used, the threads being placed about half a centimeter apart (five to an inch). The bleeding was chiefly from the mesentery and the vessels were controlled by the sutures. There was about half a pint of blood in the abdominal cavity. The ball, a .38-caliber, was found wrapped in a portion of the great omentum. It was not scarred or flattened, evidently not having struck a bone or other hard object.

Fortunately the portion of intestine wounded, included in a length of about two meters of the jejunum and ileum, was empty of fecal matter and none was detected in the peritoneal cavity; but the cavity was thoroughly irrigated with about 10,000 cubic centimeters of warm salt solution. The entire length of the small intestine was examined by sight and the large intestine, stomach, kidneys, liver, and spleen by palpation. The wound in the abdomen was closed by means of interrupted silkworm-gut sutures, including skin, muscle and peritoneum, without drainage. Pulse 124 at close of the operation, which lasted 2½ hours. The patient suffered considerable pain on recovering from the anesthetic (chloroform) and was given .015 gram (approximately ¼ of a grain) of morphin hypodermatically.

May 27th. Patient slept very little; is nauseated. Ordered sulphate of magnesia, four grams (60 grains) every hour until bowels should act. After taking two ounces the bowels moved four or five times and the nausea and other symptoms improved. Temperature, in axilla, 38° C. (100° F.), both morning and evening. Pulse 120 in morning, 104 in evening. May 28th. Temperature 37.2° C. in morning, 37.4° C. evening. Pulse 104 in morning and evening. May 29th. Temperature 37° C. (98° F.); pulse 80. After this the pulse and temperature were practically normal; once for some unknown reason the temperature rose to 38.8° C. The patient had no opiates after the 29th. June 10th. First dressing; stitches removed. There was primary union throughout except at the point of entrance of the bullet and a short distance below, both of which were covered by small scabs. A few drops of pus exuded where some of the sutures passed through the skin. June 12th. Patient allowed to get up, abdomen being well supported by a flannel bandage. June 19th. Patient walking about; still small scabs over the two points mentioned.

June 24th. Patient well; appetite good, bowels act fairly well, occasionally requiring salts or an enema. Complains of a little stiffness about the wound. Discharged from treatment.

MEDICAL PROGRESS.

Egyptian Medical Tattooing.—FOUQUET (*Centralbl. f. Chir.*, June 25, 1898) found upon the body of a priestess who was embalmed in the 11th Dynasty—about 3000 years B. C.—linear blue marks which he at first supposed were for ornament but which he afterward concluded were the result of some vigorous application of remedies. The marks were both below and above the umbilicus, those below running almost horizontally while those above it ran in a vertical direction. The surgical measures were evidently taken a long time before the death of the woman, and were perhaps intended to cure her of some pelvic trouble, chronic pelvic peritonitis or whatnot. This method of introducing drugs into the body is still practised in Egypt, and the writer was able to collect details of ninety-seven cases in which it was employed. In most of them the tattooing was done upon the temples for the relief of headache or neuralgia, but in other cases the scarification was made upon the hands, feet, shoulders, knees, buttocks, neck, or abdomen. The technic of this treatment is as follows: From three to seven needles, which are bound together in a bunch, are thrust obliquely into the skin. When blood begins to flow from the punctures thus made, a mixture of milk and soot, to which the juice of various plants has been added, is rubbed into the wounds.

A New Method of Disinfecting Rooms with Formalin.—SCHLOSSMANN (*Berlin. Klin. Wochenschr.*, June 20, 1898) describes an apparatus for the disinfection of rooms by formalin, which he and WALTHER have devised, and which gives a far more perfect disinfection and in a much shorter time than any apparatus yet brought forward. Steam from a kettle of boiling water passes into the reservoir full of a mixture of ten parts of forty-per-cent. formaldehyd (formalin) and one part glycerin. From this reservoir through four escape pipes there passes off a vapor composed of formalin, glycerin, and water. Ten minutes after the apparatus is set going in a room 16x14x10 feet the fog is so dense that it is impossible to determine if an incandescent lamp in the center of the room is lighted. In less than three hours all germs of whatever sort that were in the room will have been killed. The advantages claimed for this method of using formalin are.

1. Absolute sterilization.

2. It is not necessary to paste up tight the windows and doors; on the contrary a little draft is of benefit.

3. The apparatus is so constructed that it produces currents of air and so insures the sterilization of all the air in the room.

4. The maximum time required is three hours, as compared to twenty-four hours required by the Trillat or Schering methods.

5. The apparatus, which is made by Lingner of Dresden, costs little to operate; and like other formalin methods of disinfection it possesses the advantage that all articles may be left in the room without fear of injury.

6. It is easy to use and as it never has a pressure of more than half an atmosphere there is no danger of an explosion.

7. The fog of glycerin-formaldehyd—a combination which the writers call glycoform—is heavier than the air. By the energy of the apparatus it is driven against the ceiling of the room and then sinks slowly to the ground, bringing with it mechanically all the germs in the air.

8. The disinfecting power of the apparatus is only limited by the penetrating power of the gas. Wherever the gas penetrates so far will there be sterilization.

At the end of the disinfection the windows are opened and the room is aired. Enough ammonia is sprinkled about to neutralize the smell of the formaldehyd, and in a short time the room is absolutely odorless. The method is simple enough to one who understands it, but it is better for the sake of thoroughness that it should not be turned over to the hands of the householder, but should be carried out by some one who has had special instruction in the method.

A Comparison between Dry and Moist Thiersch Grafts.—ENDERLEN (*Deut. Zeitschr. f. Chir.*, vol. 48, p. 1) has experimented with Thiersch grafts in order to test their vitality and power of growth after they have been dried for a number of days. He found that they would adhere when planted, and grow, although they had been preserved dry for several days in Petri dishes, but their growth under such circumstances was by no means as active as that of fresh grafts, or of those which had been kept for a like time in sterile salt solution. As the centers of grafts which are kept in a dry state for three or four days are not yet entirely dry, it is scarcely fair to say that dried grafts will grow. Those which were quite dry and hard did not in any case show signs of cell multiplication. Grafts prepared according to the rules laid down by Thiersch adhered better and grew faster than those prepared according to Krause's method, or in long strips. The writer says that the growth of epithelium from sweat-glands is very apt to lead one into error as to the power of growth of a graft. In his preservation experiments he found that the epithelium is much more enduring than the cutis, which goes to pieces in four days or less, even though it be preserved in a moist condition.

Pelvic Examination in an Inclined Position.—JAYLE (*La Presse Med.*, June 22, 1898) says that there are great advantages to be gained in the examination of difficult gynecologic cases from an inverted inclined position of the patient. This position is essentially that known as Trendelenburg's except that the patient instead of hanging by her knees, rests with her shoulders against two blocks, while the head is raised upon a cushion. This avoids the unpleasant rush of blood to the head, and at the same time it leaves the pelvis free from any strain and easily movable as the examiner may desire.

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No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK.

Subscription Price, including postage in U. S. and Canada.

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SATURDAY, JULY 23, 1898.

YELLOW FEVER AMONG THE TROOPS.

THE dread news that the scourge, yellow fever, has invaded the army at Santiago has been received. This, indeed, was expected, and occasions no surprise, neither should it cause panic nor serious alarm. Now that the trenches are no longer occupied an epidemic among the American soldiers is not to be feared. Thus far, the number of cases is limited and the nature of the disease is mild.

British experience in Jamaica has demonstrated the possibility of rendering a garrison, stationed in the tropics, comparatively free from yellow fever. This has been accomplished by removing the camp from the immediate vicinity of the coast towns, and locating the station at as high a level as can be conveniently reached, providing the camp with an abundant supply of good water, and prohibiting intercourse with the native population. It is true that the circumstances attending the Santiago invasion have been such as to contribute, in the fullest degree, to sickness among the troops. The army has been obliged to fight its way through jungle, rain, and mud, and to endure the terrific nervous strain of lying upon its arms for days together, in the face of the enemy, with the hourly expectation of an assault. Such conditions could not have been endured long beneath the sweltering rays of a tropical sun, without widespread and disastrous consequences. Capitulation has come none too soon. A most important factor of the surrender, however, is not the number of prisoners taken, nor the number of arms given up, but the opportunity thus afforded (1) to get the American soldiers out of the trenches and establish a permanent camp on some lofty, accessible plateau, where the water-supply shall be abundant and the drainage good; (2) to secure a similar temporary camp for the prisoners of war; and (3) to segregate the refugees and prevent the possibility of contamination by them. In the meantime, the sick can be carefully isolated and provided with the necessary care and attendance. As Surgeon-Major Summers aptly remarks, "The best possible place to treat yellow fever is a military camp, and the best military camp in the world in which to treat the disease is a United States Army camp."

The type of yellow fever which is indigenous to the eastern part of Cuba is mild and easily controlled by well-known methods, if promptly and efficiently applied. That the very best means of dealing with this disease will be at hand and energetically applied we have every reason to believe. The Surgeon General's department has for years made a careful study of yellow fever; the army is under the immediate care of a score of surgeons, skilled by practical experience in dealing with the disease, and these are supplemented by assistants who, during the past few months, have been carefully instructed in the nature of tropical diseases and all that pertains to their treatment, prevention, and control. Whatever want of preparation then may be justly charged against other departments of the army, happily the medical service finds itself ready to cope with this emergency.

The present is no time for experimentation, but the application of well-known hygienic and sanitary principles can be relied upon to protect the soldier, not only from the invasion of the disease, but from its ravages when it has finally appeared. Sanarelli's serum has not yet been sufficiently tried in the demonstration of its freedom from danger as a prophylactic, to subject any large body of men to its application, nor have its curative properties been found so efficacious as to justify an exclusive dependence upon it as a therapeutic agent.

ADVANCES IN MEDICAL EDUCATION

THE change from a proprietary medical college to a medical department of an established university is regarded as a movement toward higher education The predominating personal interest of the faculty is thereby subordinated to the interests of medical education. The public contributes pecuniary assistance more freely, and the equipment and facilities necessary to reach the highest standard are thereby assured.

In New York during the past few months two schools have thus allied themselves with established universities, and it is with no little interest that the medical fraternity is watching the evolution of their plans along these higher lines of medical equipment as well as the broadening influences of the new alliances. One feature that seems to be characteristic of both institutions is an unbounded enlargement of the teaching staff. The advance sheets of the University Bellevue Medical College presents an array of ninety-seven men in its faculty and staff, while the Cornell Medical School is reported to have a still greater number. The effort has been to secure men who have hospital appointments or dispensary positions with the evident idea of securing clinical material. The two schools have seemingly been vying with each other in this direction. It is one thing, however, to pass before medical students a large array of clinical material, but quite another to have this material carefully differentiated and effectively presented to the students' mind. How much attention has been directed to selecting men who have talent and experience as teachers can only be known after this staff has become adjusted to its work.

In the Bellevue College the effort has been made to continue its reputation as a school of clinical instruction, and the circular announces that the facil ities for such work will be amply provided by their new building on the corner of First Avenue and Twenty-sixth Street, and the building directly opposite the entrance to Bellevue Hospital.

The laboratory work has been greatly extended both in pathology and bacteriology. Hygiene and sanitation will demand more attention than formerly, and Dr. Doty, the Health-Officer of the Port of New York, will conduct a department in quarantine sanitation. The course of lectures on tropical diseases will doubtless attract men who expect to settle in the South or our newly acquired tropical islands, such as Cuba and the Philippines. This course will be conducted by Dr. J. Edward Stubbert, who has lived for a number of years in the West-Indian Islands and various parts of South America. At the present time he is the resident physician of the Loomis Sanitarium at Liberty, N. Y. Tropical diseases are attracting more and more attention, and it is noticeable that the British Medical Association at its meeting this year has introduced a section devoted exclusively to tropical diseases. This new course established in Bellevue will doubtless prove a popular and valuable innovation.

THE TAXATION OF MEDICINAL PREPARATIONS.

THE principles involved in the new internal revenue law, the passage and enforcement of which has been made necessary in view of the enormous expenditures by the Government in carrying on the conflict with Spain, are upheld by every loyal American, and each will contribute to the income of the National treasury to the extent either of his means or necessities. The question as to whether the construction which will be put upon certain sections of the law will be just and in conformity with the welfare of the people, however, is of vital interest and importance.

Particularly does this refer to that portion of the law relating to the taxation of so-called patent and proprietary medicines, as well as to those prepared by manufacturing chemists the containers of which bear a label specifying the virtues and dosage of the preparation. According to a natural interpretation of this clause every product issued by the manufacturing chemist, practically no matter what its composition or its value in the hands of the physician as a safeguard against disease, will be subject to a tax equal to that levied upon the worthless nostrums with which the country is so completely flooded at all times. There can be no doubt that such an interpretation by the Commissioner of Internal Revenue at Washington would be manifestly unjust, for those preparations which are confessedly designed only for dispensing through the medium of a physician's prescriptions should not be placed in the same category as those widely advertised in the daily press and sold to any applicant over the retail druggist's counter.

It has been argued that the tax is so small that it can be met by the manufacturer almost without inconvenience, and that his loyalty to his country should deter him from seeking to be made exempt from contributing his just share to that country's needs, but be this as it may, the poor as well as the rich must at times have recourse to the use of standard medicinal agents for the alleviation of human ills, and, viewing the matter in a practical every-day light, it is hardly to be supposed that the manufacturing chemist, any more than the brewer or the importer of table waters, in the end will be the one to defray the additional cost of putting his products on the market.

The opinion is very general that manufacturers of patent or proprietary medicines reap very large profits from the sale of their goods and there can be no doubt that it was the intention of Congress, in framing the act, to reach this class of articles rather than those put forth by the manufacturing chemist for use through the agency of the physician. The Internal Revenue Act of 1864 accomplished this purpose. The injustice of laying additional burdens upon the sick poor is so apparent that nothing but the clearest proof that such was the intention of Congress will justify those entrusted with the interpretation of the act in giving it such an effect.

The language of Schedule B of the Act reads as follows: "All medicinal preparations or compositions whatsoever made and sold or removed for sale by any person or persons whatever, wherein the person making or preparing the same has or claims to have any private formula, secret or occult art for the making or preparing of the same, or which are prepared, uttered, vended or exposed for sale under any letter patent *or trademark* or *which are prepared by any formula, published or unpublished;* or held out or recommended to the public by the makers, vendors or proprietors thereof as proprietary medicines *or medicinal proprietary articles or preparations*, or as remedies or specifics for any disease or diseases or affection whatever affecting the human or animal body."

The language used, particularly when read in the light of the caption of the schedule ("Medicinal Proprietary Articles and Preparations") can by no possibility be extended to cover anything except patented, trademarked, or proprietary articles.

Furthermore, the law reads: "The stamp tax provided for in Schedule B of this act shall apply to all medicinal articles compounded by any formula, published or unpublished, which are put up in style or manner similar to that of patent, trademarked, or proprietary medicine in general, or which are advertised on the package or otherwise as remedies or specifics for any ailment, or as having any special claim to merit, or to any peculiar advantage in mode of preparation, quality, use, or effect." This section is also adapted from the law of 1864, but it was never claimed that the provisions of the old act applied in any respect whatever to standard pharmaceutical drugs and preparations. In this adaptation on the part of Congress the word "proprietary" has been omitted, undoubtedly for the purpose of enlarging the scope of the section so as to include what is technically known as non-secret medicines, which are medicines of the same character and class as proprietary medicines, except that the formula is not concealed; but the language used, under any canons of construction, cannot be considered as going beyond that point. In order that standard pharmaceutical preparations should be considered within the scope of this section of the law, the preparations must be put up in a form adapted for the use of the consumer without the intervention of druggist or physician, and the claims made for it must be such as to induce the individual to resort to it to cure him of his ailments.

When he finally announces his decision it undoubtedly will be found that the Commissioner has drawn a line which overlaps on one side or the other the fine distinction so important in such a case, but if it leans in the direction which common humanity dictates, the interests of the manufacturing chemist not entering into the matter, no medicinal preparation designed to assist the reputable physician in his unceasing effort to subjugate disease will be made to add its quota to the National funds collected for the purpose of subjugating the Dons.

ECHOES AND NEWS.

Women Excluded from the Study of Medicine.—The German Medical Association, numbering more than 15,000 members, at its recent conference at Wiesbaden, unanimously adopted a resolution expressing disapproval of the admission of women to the study of medicine.

A Chair of Nursing Established in a Medical School —The

medical department of the University of Texas has taken the lead in officially recognizing the department of nursing in its curriculum. It is reported that Miss Hannah Kindbom has been elected Professor of Nursing at that institution. Professor Kindbom is twenty-six years of age, and a Swede by birth.

The Investigation of the New York Post-Graduate Hospital Concluded.—The special committee of the State Board of Charities appointed to investigate the charges of irregularity in the administration of affairs in the New York Post-Graduate Medical School and Hospital, reports that the charges which it had under consideration were not sustained by the evidence presented.

A Bale of Cotton for the Hospital Fund.—The first bale of cotton of the crop of 1898 has been sent to President McKinley by the citizens of New Orleans as a contribution to the United States Hospital Fund. It was sold at public auction at noon, on Wednesday of last week, from the steps of the Cotton Exchange Building at New York, and the proceeds deposited to the hospital account.

Prehistoric Surgical Instruments.—In a Roman hospital recently excavated at Baden, Switzerland, many medical utensils and surgical instruments were found, among them, probes, tubes, pincers, cauterizing instruments, safety-pins, bone medicine spoons, silver measuring vessels, jars and pots for medicine—some containing traces of ointment. Fourteen rooms of the building have been excavated.

Athletic Training of Soldiers.—The capture of blockhouses, after hard fighting with the Spaniards in the campaign before Santiago, has demonstrated the advantage of athletic training in all military organizations. A member of the 71st New York, in a recent letter home, announces that, "Had it not been that quite a number of us had had thorough athletic training, we could never have endured the terrific assault up those steep hills."

Firing on the Wounded.—The reports that the Spanish sharpshooters deliberately fired on the hospital flag, on the field of El Caney, seems hardly credible. It is true that two of a hospital party were killed, and it is stated that three wounded soldiers, while being carried in litters, were shot and killed. It must be remembered, however, that the lines of battle were very close, and that, with the long-range weapons in use at the present time, missiles seek out unintended victims.

Lady Salisbury Subjected to a Surgical Operation.—It is reported from London that the wife of the Prime Minister has long been afflicted with dropsy and recently submitted to a critical surgical operation for its relief. The cause of the dropsy, and the nature of the operation are not stated. Six doctors assisted at the procedure, including Sir William H. Broadbent, Physician in Ordinary to the Prince of Wales, and Dr. Charles Theodore Williams, Physician Extraordinary to the Queen.

The Requirements of Surgeons in the Volunteer Army.—Surgeon-General Sternberg has recommended, and Secretary Alger has approved, an arrangement by which physicians, appointed by the Governors of States to positions in the volunteer regiments, may be examined by a board of three physicians, appointed by the respective Governors. A certificate of this board—that the candidate has passed a successful physical and professional examination—will be accepted by the War Department as evidence of fitness.

Cubans Donate a Hospital at Key West.—In addition to the many testimonials of appreciation of the interference of the United States in their behalf, which the Cubans have given from time to time, they have recently contributed to the United States Government, a building for hospital purposes. The San Carlos theater and club-house at Key West has been formally ceded by the Cuban owners and stockholders to the Government as a hospital, although they placed no restrictions upon the uses to which the building shall be put.

Legislative Measures for an Increase of Population.—The example set by France in instituting measures for an increase of its population is being followed by Bulgaria. For every son born, beyond a minimum number, twenty francs will be paid, not only to the father, but also to the mother. A soldier who becomes the father of twelve sons will receive a pension large enough to support him, besides a decoration. The same reward will be accorded to his wife. It is gratifying to note that the wife's part in this duty to the State is meeting with adequate recognition.

The Fate of the Reconcentrados.—At the beginning of hostilities, the feature of the war, which appealed to the hearts of Americans was the relief of the Reconcentrados. Recent reports from Cuba seem to indicate that this factor has been almost completely eliminated. Nearly ninety per cent. of those who had been forced into the larger cities at the time of the Maine disaster have died of famine and exposure. In round numbers this includes nearly a million of women, children, and old men. The remaining few who, since the revocation of the order of concentration, have returned to the country, have been able to eke out a miserable existence by means of the wild fruits of the country.

Death under Chloroform.—A fatal accident from the use of chloroform recently occurred at the Infirmary in Edinburgh. The victim was a man who was being anesthetized for the purpose of reducing the dislocation of one of his finger-joints. The history of the case states that, after the first inhalations, the patient began to shout loudly, kick about, and fight, and it required the force of four or five doctors to hold him. This is the usual history of fatal cases, and teaches the importance of recognizing the fact that restlessness on the part of the patient is a protest against too concentrated anesthesia, and when force is resorted to and the anesthetic crowded, this unfortunate condition is aggravated to a fatal termination.

Restrictive Effects of War Taxes.—The New York statutes allow the employment of children between the

ages of twelve and fourteen at remunerative labor during school vacation. Children thus seeking employment are obliged first to secure a certificate from the Board of Health. Under the provisions of the War Revenue Bill, imposing a tax upon "certificates," each child procuring a certificate is obliged to pay a tax of 10 cents. The President of the New York Board of Health has written to the Attorney-General of the United States, calling attention to the fact that, under these conditions, hosts of poor children are deprived of their accustomed privileges. He asks for a ruling upon the particular section of the law which works these hardships, praying for its modification.

A Notorious Offender Convicted.—The difficulty of bringing to account the parasites of the profession who make their livelihood out of unholy and criminal practices, and who unblushingly vaunt their financial success in the face of the world, has been experienced in all communities. It was with satisfaction that we chronicled not long since the success of the New York County Medical Society in ridding New York City of its most persistent offender in this line. After a protracted trial, a notorious specimen of the genus above referred to and a great favorite among the "smart set" in London, has been found guilty, and condemned to seven years of penal servitude. *The* (London) *Times*, in commenting on the rottenness of society morals, says: "Soon after the offender's imprisonment a lady was asked what she and her friends would do now that his services were no longer available. 'Oh,' she replied, 'We have found another man.'"

The Social Position of an M. D. in England.—The medical press deplores the fact that in Great Britain the doctor is too often relegated to an inferior social rank and surroundings, not being admitted to the circle to which the parson, the local banker, the military officer, and the resident lawyer are welcome. This apparently accepted social inferiority of the general practitioner is attributed (1) to the bill-running system which prevails among them; (2) to the intimate association of medicine dispensing (for profit) with general medical practice. As a remedy for this state of affairs a cash system of payment is recommended, and the abolition of the practice of combining the medical and pharmaceutical functions. It is difficult for an American to understand how such simple prejudices should relegate a member of the learned profession to the social rank of trades people, and we are glad to know that the medical profession is gradually receiving in England the social recognition which it deserves.

The Rainfall in Cuba.—The Juragua Iron Company, through its Secretary and Treasurer, Mr. Josiah Monroe, has kept careful weather observations at Firmeza, the mining village of the company, which is located about sixteen miles east of the city of Santiago de Cuba and about five miles inland from the sea, among the mountains, about five hundred feet above sea level. In a recent communication to Surgeon-General Wyman of the Marine Hospital Service, Mr. Monroe gives a detailed tabular account of the temperature, the rainfall, sunshiny days, and cloudy days during the period of 1889-1897. From this we learn that in the year 1889 the rainfall was 76.75 inches; in 1890, 55.84 inches; in 1891, 60.14 inches; in 1892, 51.15; in 1893, 60.53 inches; in 1894, 56.24 inches; in 1895, 63.42 inches; in 1896, 58.22 inches, and in 1897, 90.57 inches. Bright, sunshiny weather is evidently the prevailing condition, the clear days each month throughout this series of years, varying from fourteen to thirty, with the large preponderance in favor of sunshine. The mean daily temperature is very even throughout the year, varying within the narrow limits of 76 to 84 degrees. The hottest period is the middle of the day. The nights are cool. The extent of the downpour when it does rain is illustrated by the fact that in one day, October 20, 1897, there was a rainfall of 14 inches.

CORRESPONDENCE.

OUR FOREIGN LETTER.

[From Our Special Correspondent.]

DIPHTHERIA ANTITOXIN STATISTICS ONCE MORE—SOME OPPOSITION MANIFESTING ITSELF TO SERUM-THERAPY—INOCULATIONS FOR RINDERPEST AND THEIR RESULTS—BACTERIOLOGY BEYOND THE DOMAIN OF THE MICROSCOPE—WANDERING AFRICANS AND PATHOLOGIC CURIOSITIES—FILARIA MEDINENSIS.

BERLIN, July 10, 1898.

A DISCUSSION as to the value of diphtheria serum in which Dr. Rassowitz, in the Vienna Medical Association, declared the value attributed to the antitoxin exaggerated, and supported his assertion by recent statistics, has attracted a good deal of attention in the German medical world. Rassowitz's article on the subject has just appeared in Liebreich's *Therapeutische Monatshefte*. As Liebreich, who is the Professor of Pharmacology at the University of Berlin, is known to be opposed to serum-therapy on principle, his opposition having given rise to a warm discussion between himself and Behring two years ago at the German Congress for Internal Medicine, the recent publication would seem to bear the stamp of quasi formal recognition by the school opposed to antitoxic treatment.

In the discussion at Vienna some things came up that are not included in this article. For instance, the reports of the early investigators of the diphtheria antitoxin were the subject of especially trenchant criticism. Just as soon as the serum treatment was introduced the most surprising and gratifying therapeutic effects were reported from it twenty-four to forty-eight hours after an injection. All symptoms had disappeared, the membrane had dropped off, the temperature had fallen, the child had regained its appetite, and a sense of well being replaced the lethargic prostration in many cases. It was these reports that led to the rapid introduction of the remedy.

Now that more is known of antitoxic values and the estimation of the value of serum in protective and curative units has become possible, these early results are open

to most damaging criticism. The number of antitoxic units employed at first was so small that they must have had practically no effect, and the good results reported at first were due entirely to what we now know to be only expectant treatment.

The statistics quoted by Rassowitz are those of St. Petersburg, on which he lays a good deal of stress, and of Trieste, of Basel, and of London. If statistics ever mean anything, perhaps they serve to show that antitoxin is not an infallible remedy for diphtheria when injected on the fifth day of the disease. As Professor Baginsky states in an article that will appear in the *Berliner Klinische Wochenschrift* within the next couple of weeks, there may be in local conditions in other cities, as there undoubtedly has been in London, some reason why antitoxic statistics should not be favorable. The want of official regulation of the antitoxic unit value of serum in England led to the putting on the market of a lot of serum of extremely low antitoxic value, as the *Lancet* examinations showed. The results attained in cases treated with this serum cannot reasonably be said to be the results of serum-therapy.

There is, perhaps, another thing that the unfavorable statistics serve to show, and that is that there are in all epidemics of diphtheria certain fulminant cases of the disease where toxin production is so rapid or its effect so serious that antitoxin does not seem to affect them. There would seem to be more of such cases occurring this year in Germany than for some years. While at Jena I heard Professor Krehl lament the failure of antitoxin in several cases, though it had been employed early in the disease. Here in Berlin there have been a number of such cases this spring.

The exaggerated claims made for the serum as to its effectiveness in *all* cases has undoubtedly led to a certain reaction of opinion, and one is a little surprised to find how many *doctors* have a certain sympathy with the opposition under these circumstances. "Not that we do not think serum-therapy of great benefit," as a prominent director of a large hospital said, "but that we do not think it the universal savior some too devoted adherents have been lauding it to be."

An article from Dr. Kolle, Koch's assistant in South Africa, in the last number of the *Deutsche Medicinische Wochenschrift*, gives the results so far of the forms of immunization introduced by Koch for protection against rinderpest. He says that it is the generally accepted opinion in South Africa that the original immunizing injections of bile introduced by Koch not long after his arrival in South Africa, saved the lives of 2,000,000 head of cattle, as the plague was raging furiously when he arrived. Immunity thus obtained, however, only lasts for from two to four months. It does not begin to protect for some time after the injections are begun, and besides is expensive, costing the lives of five out of every hundred cattle.

Though the bacterial cause of the disease remains unknown, an antitoxic serum has been found that furnishes lasting immunity, at least as far as observations go. It has been tried on 100,000 cases satisfactorily, and it has been found that sheep may be used to furnish the serum if inoculated five or six days before immunizing serum is desired with 50 to 100 cubic centimeters of virulent blood. In this way the dangers of conveying such diseases as Texas fever, anthrax, or tuberculosis, so common in cattle in South Africa, is avoided.

Though the smallest drop of an infected animal's blood conveys the infection, the microbic cause has not been found. Dr. Kolle thinks that the reason is that the microbe is too small to be seen with the present powers of the microscope. According to Abbe's researches, a microbe less than one-third the size of Pfeiffer's influenza bacillus would be invisible under the microscope. Kolle does not think that the bacterial cause of cattle plague can be much smaller than this, because, unlike Loeffler's experience with foot and mouth disease, the infectious material will not pass through a filter.

Three very interesting, exceedingly minute organisms are exciting the deepest interest of the world's greatest bacteriologists just now. At Paris Metchnikoff, Roux, and Nocard are studying what they think is the cause of pleuropneumonia in cattle, and it presents itself as a microbe so small that it is only discoverable because it produces clouding in culture media, and is seen under the microscope as minute points in the culture medium that strongly refract light and so become visible. Loeffler believes that the cause of foot and mouth disease is organic, despite its passage through a filter, for it has the quality of increasing itself after inoculation. Finally, what is this organism of cattle plague that has occupied Koch so? It would seem with this array of talent devoted to one subject the technic for ultra-microscopic bacteriology must be materially advanced in the near future.

Apropos of Koch's lecture on malaria and Texas fever, it is a little surprising to note the *British Medical Journal's* editorial on honor to whom it is due. The false impression that suggested the expression of editorial opinion was due to an incomplete report of what Koch said. As I reported at the time, his acknowledgment of the work done by Dr. Allen J. Smith, Professor of Pathology in the University of Texas, in Texas fever was most complete. He fully detailed Professor Smith's observations on the infectiveness of young ticks that had never been on infected cattle, and then described his own substantiation of them. A number of Americans who were present exchanged significant looks of compatriotic feeling. That the English workers on the mosquito theory of malaria were not mentioned by name is due, I suppose, to the fact that here in Germany the subject is not considered as yet to have gotten beyond the stage of merest theory.

The troupe of Toga negroes from the German colony in East Africa, which has been on exhibition at one of the cheap museums in Berlin, has furnished Berlin doctors with some rare opportunities for the study of unusual diseases. In the blood of some of them certain of the special tropical forms of the malarial parasite were found. A number of them developed smallpox, and gave the opportunity so rare here on the Continent of studying the appearance of the eruption on black skins, and now one of them has proved to have that rare parasite, the *filaria*

medinensis, or *dracunculus medinensis*. What looked like an ordinary leg ulcer refused to heal for some time, and at length a portion of a worm was noticed protruding from it. Each day 1½ to 3 centimeters more of the worm has come out, until now some 30 centimeters in all has been protruded. The Africans themselves take cold baths, which are thought to favor the exit of the worm once it starts to come out, and twist the amount of worm which appears each day on a small piece of stick to keep it from going back. This is the only treatment that is employed in this case, so that the thoroughgoing eclecticism of the Berlin school, even as regards the adoption of popular remedies, is evident. Every precaution is taken not to injure or rupture the worm, as that accident is often followed by serious infection of the parts. This infection is liable to invade the whole extent of the subcutaneous tissue in which the worm has its habitat, and as the worm may reach the length of even a meter (forty inches), serious cellulitis, that may require amputation, or may spread upward to the body and kill the patient, may occur. Another of the Africans is being treated for an ulcer near a malleolus that it is thought may prove to be also filarial in origin, the parasite just approaching the surface.

TRANSACTIONS OF FOREIGN SOCIETIES

Paris.

WHEN SHOULD A KIDNEY BE REMOVED FOR HEMORRHAGE?—TORSION OF THE ENTIRE SMALL INTESTINE—CHOLEDOCHOTOMY WITH DRAINAGE BUT NO SUTURE—TREATMENT OF SIMPLE ULCER OF THE STOMACH—CARPUS CURVUS—SWELLING OF THE PAROTID GLANDS AFTER THE APPLICATION OF TINCTURE OF IODIN.

POUSSON spoke of a case of nephrectomy for renal hemorrhage before the the Surgical Society, June 1st. The patient was a woman, and the source of the bleeding having been determined by cystoscopic examination, the operator at first performed nephrotomy, but finding no cause for the hemorrhage, he therefore removed the kidney. There were several ecchymoses in its pelvis and different parts of the organ were congested and sclerotic, but there was no evidence of stone or tuberculosis. Six months later the patient was free from further hemorrhage.

POIRIER reported a similar case occurring in a man aged forty-eight years, whose kidney he had removed for hemorrhage, although nothing except a certain amount of chronic inflammatiou could be found in it. The patient recovered from the operation, but died some six weeks later from a pulmonary trouble. The speaker said that to his mind it was not clear that a kidney should be removed under such circumstances.

At the meeting of June 8th, POTHERAT strongly objected to a nephrectomy for so slight a cause. He treated for eighteen months for hematuria a woman whose right kidney was displaced, enlarged, and nodular, and clearly the source of the hemorrhages. Thinking that a neoplasm existed, although there was a small amount of albumin in the urine, he decided to removed the organ. It was both large and irregular, but when opened contained no calculus, nor was there any evidence of a neoplasm. For four days there was almost complete anuria, which was only temporarily relieved by the administration of theobromin, and the patient died some days later with uremic symptoms. The kidney which had been removed was simply hypertrophied as compensatory to the other one which was badly sclerosed. Another patient who had been troubled for three months with hemorrhage cystoscopically shown to come from the right ureter, had tenderness over the right kidney. Mindful of his previous unfortunate experience, Potherat decided not to remove the kidney until he had positive proof that it was abnormal. Attempts were therefore made to catheterize the ureter, but they failed in that the catheter could be passed only some millimeters beyond the orifice. From that time on the hemorrhages ceased, and had not recurred at the date of report, some two months later.

DELBET described torsion of the whole small intestine, an accident which is little known, but which he had twice observed. In the first instance the cause of the intestinal obstruction was not made out and an entero-anastomosis was performed. The patient died and at autopsy the real condition of affairs was made out. The mesentery was twisted in the direction of the hands of a watch. A second case occurring in a man aged sixty-seven years, was accurately diagnosed and the twist was unwound. Here too the twist was in the direction above mentioned. The result of operation was most favorable, and the following day the patient had a natural movement of the bowels. Unfortunately a bronchopneumonia followed the operation from which he died on the eleventh day.

QUENU recited two cases of choledochotomy, the first performed upon a woman aged fifty who in addition to her jaundice had advanced cardiac lesions, ascites, and a moderate glycosuria. The operation itself was rendered more difficult by the hypertrophy of the liver, and the extensive adhesions about the common duct, which made it impossible to do more than blindly divide the tissues at the tip of the finger. The stone was, however, removed without accident, but it would have been impossible to have sewed up the incision, even if this had been a step in the operation which Quenu deems inadvisable. The jaundice cleared up rapidly but the fistula did not close for two months. An attempt made with a probe to determine the patulous condition of the common duct, provoked so severe a hemorrhage that the operator thought that he had opened the portal vein. The cirrhosis of the liver and the cardiac complications persisted as the operation was performed too late to restore their integrity altogether. A second patient, also a woman, had been ill for more than three years with attacks of pain, fever, vomiting, etc., with continuous jaundice. Here too the adhesions were firm, the transverse colon, omentum, stomach, and duodenum being glued together and to the biliary passages in a way that defied dissection. The stone was at last exposed by a slow scratching process. It was large and pear-shaped, and might have been thought to lie in the gall-bladder, were it not that its point

was upward, and not downward as is the case in the pear-shaped calculi of the gall-bladder. In both of these cases the parts in the vicinity were so arranged after operation as to make a funnel from the opening in the common duct to the wound in the skin, and in this a drain was placed. In neither was there any peritonitis, although the bile was presumably septic. The fistula in the second case closed in twenty days. These cases prove the success which attends the open treatment of the wound in the common duct. In both patients moreover the bile in the urine persisted after the jaundice had entirely disappeared, which fact led Quenu to the conclusion that there existed higher up in the biliary passages secondary obstructions of a minute character.

At the Therapeutic Society, May 25th, MATHIEU said that in the treatment of simple ulcer of the stomach preparations of iron, such as the perchlorid, and arsenic ought never to be given as they increase the hyperacidity and the interstitial gastritis, and so delay the cicatrization of the ulcer. The true treatment consists in the repose of the stomach, as complete as possible, which is best secured by rectal alimentation. The use of the sound either for the introduction of bismuth or other remedies, or for the sake of testing the contents of the stomach, is a dangerous practice, as it may bring on an alarming hemorrhage. The use of alkalies to counteract the acidity of the organ has been highly spoken of, but they act by increasing the motor activity of the stomach, and so their use may be attended with danger. Surgical measures are a hopeless risk, as in nearly every case it is impossible to find the point of the hemorrhage.

At the Academy of Medicine DELBET described *carpus curvus*, an affection about which there is very little general knowledge. The hand in this trouble while preserving its normal form is displaced forward as if a luxation of the carpus existed. The plane of the posterior surface of the forearm, if continued downward, would pass quite behind the carpus and metacarpus. The plane of the anterior surface of the forearm, on the contrary, would cut the carpus and leave most of the hand anterior to it. The hand is also displaced toward the ulnar side, so that the axis of the forearm instead of falling through the head of the third metacarpal, falls nearly or quite through that of the second. Dissection of this deformity shows that it is due to a curving of the radius, with a secondary luxation at the ulnocarpal joint, a true deformity of growth, similar to that seen in genu valgum. If the case is sufficiently severe to require operation, a good result may be obtained by an accurate division of the radius.

At the Medical Society of the Hospitals, June 3d, RENON described a double parotiditis which followed the application of the tincture of iodin. The patient was a man, aged fifty-one years, whose chest had been painted with iodin for a cough. The following day the skin of the chest was edematous and painful, and the same day the right parotid gland swelled, the other one being affected in like manner the succeeding day. In the opinion of the writer the unhealthy state of the buccal mucous membrane aided in the swelling of the glands. The swelling subsided in a few days.

LE GENDRE had noticed that the extensive application of the tincture of iodin upon rheumatic joints is sometimes followed by a tenderness of the parotid glands.

MUCOUS MEMBRANE ERUPTION IN MEASLES.

To the Editor of the MEDICAL NEWS.

DEAR SIR: In your issue of the 25th ult., page 818, I note with some surprise that an eruption upon the mucous surfaces of the mouth in the earlier stages of measles is regarded as a new diagnostic sign, for the discovery of which, it is said, we are indebted to Koplik of New York.

For more than fifteen years I have noticed that the buccal and faucial mucous membrane usually presents the papular eruption incident to measles from twenty-four to forty-eight hours prior to the development of the cutaneous eruption. In cases of suspected measles I have always inspected the mouth and pharynx in search of the mucous papules and in many instances I have, by their presence, been enabled to diagnosticate the disease some hours in advance of the appearance of the skin eruption. This eruption is an almost constant precursor of the cutaneous eruption and is fully as reliable a sign as the latter. I have noticed these "spots" most often upon the soft palate. I do not regard the eruption as a new sign of measles for I believe that many physicians have made use of it as an early aid to diagnosis. I recall instances where "old grannies" have made use of this "new sign," and it may be that the honor of its discovery belongs to them. Certainly the honor belongs not to any one of the present generation of medical practitioners.

Respectfully,

A. L. HALL, M.D.

FAIR HAVEN, N. Y., July 11, 1898.

SOCIETY PROCEEDINGS.

ILLINOIS STATE MEDICAL SOCIETY.

Forty-Eighth Annual Meeting, Held at Galesburg, Ill., May 17, 18, and 19, 1898.

THE Society met in the Court House, under the presidency of DR. J. M. G. Carter of Waukegan. An address of welcome, delivered by the HON. F. F. COOK, was responded to by the President.

SECTION ON PRACTICE OF MEDICINE.

DR. ARTHUR R. EDWARDS of Chicago in the Chair.

The first paper read in this section was by DR. FRANK P. NORBURY of Jacksonville, entitled

MALNUTRITION IN INFANTS.

The author said that nearly all cases of malnutrition are the result of gastro-intestinal disorders incidental to errors of diet. Over-education of the mother is responsible for her lack of ability to supply wholesome milk to the infant. Again, other conditions, such as excitement, worry, neurasthenia, the occurrence of menstruation, etc., may produce unfavorable results upon the milk,

and thus disturb its nutritive value. Artificial feeding is responsible in many cases for indigestion in infants. This is the result of faulty methods of administration of foods and of the promiscuous and heterogeneous selection of food-stuffs prescribed by the neighbor or parent. The treatment has two main objects in view, namely, to arrest wasting, and to repair the damage done by the disease.

INFANTILE SCURVY, WITH REPORT OF CASES,

was read by DR. ISAAC A. ABT of Chicago. He said the earliest cases reported were erroneously described as cases of acute rachitis. We were indebted to Cheadle of London, who described the disease in detail as infantile scurvy in 1878, and later as osteal or periosteal cachexia with scurvy. The essayist related cases that had come under his observation to illustrate the course of the disease. He discussed both the etiology and symptomatology at length.

The diagnosis in well-marked cases is not difficult. With reference to the differential diagnosis, congenital syphilis can be excluded by the history of the case, and by the absence of syphilitic lesions on the skin and mucous membranes. In congenital syphilis there is never a history of severe pain. The pseudoparalyses of syphilis are limited nearly always to the upper extremities; the swelling is never so intense as in cases of infantile scurvy, and is more prone to occur on the epiphyses than on the diaphyses. Separation of the epiphyses occurs in both diseases. A spinal paralysis may be thought of, although in such cases there is neither tenderness nor swelling. As to the treatment, brilliant results are obtained by providing a suitable diet, such as fresh cow's milk, or mother's milk, beef juice, orange or lemon juice, fresh vegetables, mashed potatoes, etc. The child should be placed under the best possible hygienic conditions; good ventilation should be provided for, and under favorable conditions of weather the child should be out of doors. Cod-liver oil by mouth or inunction is especially indicated when the child recovers from the scorbutic condition in order to aid nutrition.

DR. FRANK S. CHURCHILL of Chicago followed with a paper on

MODIFIED MILK.

He discussed the laboratory method and home modifications of milk.

THE DIAGNOSIS OF PLEURISY WITH EFFUSION, WITH ESPECIAL REFERENCE TO MISLEADING PHYSICAL SIGNS,

was the title of a paper by DR. JAMES B. HERRICK of Chicago. He first spoke of the importance of careful inquiry into the history of the patient, and dwelt upon the fact that in some instances there may be an absence of pain and cough, the clinical symptoms resembling those of mild typhoid fever. In other cases the severity of the symptoms and the explosive onset will remind one of pneumonia. Among the signs which may mislead, he mentioned the occasional inspiratory recession of interspaces and the decubitus upon the sound side. He regarded vocal fremitus as of relatively inferior value because of the many conditions which may cause it to be retained even though there is a large amount of fluid present. With small amounts of fluid a careful examination should be made in the posterior axillary line just external to the angle of the scapula, for signs are often present here though absent elsewhere. Even with quite large effusions there is a triangular area of relative dulness above the line of flatness posteriorly. Quite pronounced bronchial breathing and well transmitted voice sounds can frequently be heard at this point.

The crucial test is exploratory puncture. With careful asepsis and a knowledge of the anatomy of the thoracic viscera there is practically no danger in this procedure. Negative results should not lead to the exclusion of pleurisy with effusion until circumscribed collections of fluid have been ruled out. By means of exploratory puncture, bacteriologic and microscopic examination of fluid is made possible, throwing much light upon the etiology, prognosis, and treatment. Palpatory puncture, to use Rosenbach's expression, may be of great value in the diagnosis of an underlying tumor, and may be the only means of determining the presence of the thick fibrous plates which sometimes line the chest.

A paper, entitled

THE SIGNIFICANCE OF CERTAIN SIGNS AND SYMPTOMS IN HEART INSUFFICIENCY,

was read by DR. B. W. SIPPY of Chicago, and was followed by one on

THE SMEGMA BACILLUS

by DR. J. L. MILLER of Chicago. The following deductions were drawn: First, over the entire surface of the body and exposed mucous membrane, and especially on the genitals, bacilli are found which resemble morphologically and in tinctorial qualities the bacillus of tuberculosis. Second, from the external genitalia they frequently gain access to the urine, especially in women, and may be a source of error in the examination of urine for tubercle bacilli. Third, the smegma bacillus presents wide variations in size and form, thus rendering morphologic differentiation frequently impossible. Fourth, while most smegma bacilli are more readily decolorized by any of the solutions commonly employed, occasionally they possess equal or even greater resistance than the bacillus of tuberculosis. Fifth, methods of decolorization, where acids alone are employed, are fallacious; acid-alcohol or dilute alcohols, unless long continued, are equally unreliable. Better, but not free from error, is the use of absolute alcohol for at least five minutes. In ammoniacal urine, however, such prolonged use of alcohol may also remove the stain from the tubercle bacillus. Sixth, attempts to remove the fat or fatty acids from the bacilli by ether, chloroform, or other solvents, fail to furnish us with a means of differentiation. Seventh, we must rely on means of excluding the smegma bacillus from the urine. It has never been demonstrated in the bladder, and apparently seldom involves the deep urethra; therefore, by cleansing the external meatus and withdrawing the urine with a catheter we can exclude this possible source of error.

REMARKS ON THE TREATMENT OF NEURASTHENIA was the title of a paper by DR. HUGH T. PATRICK of Chicago. He said that for the production of neurasthenia, as for the production of nearly all disease, two conditions are essential: First, a noxious agent, and, second, a relative vulnerability of the organism or of some part of it. The ratio of these two etiologic factors may be called the etiologic index. In some cases the first effect, that is, the extraneous agent, will be very prominent, the organism itself being considered as normal. In others, the exciting agent will be exceedingly slight, the inherent susceptibility or instability of the patient being an essential causal condition. Each of these two classes of neurasthenia will naturally need radically different treatment. In the first, those in which the patient once possessed of a normal nervous system which has simply been overstrained and overdrained, the important features of treatment are rest and recuperation. In the second class of cases, those in which an unstable nervous system of the individual is at fault, the treatment is essentially mental, and the best way of administering it is by systematic education. For such patients isolation and an initial period of rest may be very useful, but for the further treatment gradually increasing physical exercise and mental occupation are necessary.

DR. GEORGE W. COX of Chicago followed with a paper on

STREPTOCOCCAL INFECTION,

in which he briefly discussed the subjects of puerperal septicemia, erysipelas, phlegmon, diphtheria, scarlatina, and tuberculosis, and reported several cases of streptococcic infection, which he said can be easily detected and cured if the proper means are employed at the proper time. A microscopic examination will confirm the diagnosis and Marmorek's serum will effect a cure.

DR. GEORGE W. JOHNSON of Chicago contributed a paper, entitled

OBSERVATIONS ON THE BLOOD OF TUBERCULAR PATIENTS.

These observations were made on patients in the advanced stage of the disease, with cavities, and, at times, hemoptysis. As to the cause of the apparent anemia in tubercular patients, Cabot and others have discovered that it is not due to a reduction in the hemoglobin. The same authorities state that in uncomplicated tuberculosis the number of red corpuscles remains practically normal. Dr. Johnson paid especial attention to the patient's physical condition as to cavities and hemoptysis. The observations were made before meals, and no attacks of hemoptysis occurred between the first and second examinations. The patients were up and out of doors most of the time during the day. The microscope was used to compute the blood count. Of thirty-three patients examined all had cavities of various sizes, and all had had hemorrhages or hemoptysis. Of these thirty-three patients twenty-five were found to have leucocytosis, that is, the white cells ranged above 7500 per centimeter. These twenty-five also showed cavities. Cabot and others state that there is always a leucocytosis when there are cavities and after hemorrhages. Nine of the thirty-three showed a red-blood count of 5,000,000 or more, which Cabot states as a normal basis. The remaining twenty-four showed a red-cell count in many instances far below 5,000,000, and in no case was the hemoglobin up to normal. In only one case did it reach seventy-five per cent.

Having made observations to determine the character of the blood, he also made some therapeutic observations, using 5-per-cent. nucleinic acid, No. 2, in the first 10 cases; 5-per-cent. nucleinic acid, No. 1, in the second 10 cases; ferratin in 6 cases, and heminol in 5 cases. The first 10 patients were given 22 cubic centimeters every four hours for twenty-four hours. The second blood observation in the first 10 patients showed 6 out of the 10 to have a still greater leucocytosis. The red-blood count was practically unchanged. The hemoglobin showed an increase of from 3 to 10 per cent. in those instances in which there was a leucocytosis. The second 10 were put on the nucleinic solution, No. 1, which was chemically pure and for hypodermic use. Thirty minims were given hypodermically every four hours for twenty-four hours. The second count in these showed the same condition as in the first 10, who were given No. 2 solution by the mouth. None of the patients complained of any bad effects, but experienced a sense of renewed energy, the circulation being better and the appetite improved. He had noticed repeatedly the splendid stimulating effect of nucleinic acid in every case in which he had used it.

Five patients were put upon heminol, 15-grain doses being given every four hours for thirty-six hours. A second examination of the blood of these patients showed an increase of the red cells in four cases. Three showed an increase in the number of white cells, and only two showed an increase in the percentage of hemoglobin. The blood of the thirty-three patients was stained and studied, and in but two cases was there found a poikilocytosis.

CHELIDONIUM MAJUS IN INOPERABLE CARCINOMA, was the title of a paper by DR. C. C. HUNT of Dixon. He had employed this remedy in three cases and concluded that (1) chelidonium majus, injected interstitially into the substance of a carcinomatous growth, tends to its obliteration and necrobiosis. (2) Copious and frequent interstitial injections of the fluid extract are unattended by danger to the patient, if judiciously used. (3) In cancer of the rectum, even at an advanced stage, stenosis may be prevented and the necessity of palliative colotomy obviated. (4) It is a deodorizer. (5) There is some warrant for the belief that it has a favorable influence over glandular infiltration and tends to prevent metastasis. (6) It is hemostatic and antiseptic. (7) It gives the patient hope of ultimate recovery, and this tends to mitigate or annul the awful apprehensions of impending dissolution. (8) More comprehensive and exact experiments are necessary in order to determine the real value of the drug.

The presidential address was delivered by DR. J. M. G. CARTER of Waukegan, who selected for his subject

ADVANCES IN THE DOMAIN OF PREVENTIVE MEDICINE.

The chief object of the address was to show that a responsibility, almost an emergency, exists in the field of preventive medicine, and that this responsibility rests upon the State. He outlined what seemed to him to be a partial possible solution of the problem and presented the following propositions as expressing his ideas of what is necessary: (1) The State or municipality should give men who cannot secure other work some kind of employment which will afford them a living. (2) This may be done by introducing such public improvements as will add to the comfort of the people or otherwise benefit them or enhance the value of property. (3) A minimum rate of wages should be paid so that only those who cannot find work elsewhere will seek such employment. (4) All able-bodied men without work, who have no visible means of support and who do not apply for such government employment, should be subject to draft for this labor. (5) The unfortunate and disabled poor should be cared for as wards of the State. (6) The State should see that the poor are properly or comfortably domiciled in houses provided with good ventilation, supplied with good water, and sufficiently warm. (7) Inspection of the homes of all the people should be conducted regularly and thoroughly, the object being to see that they are in good sanitary condition. (8) All foods put upon the market, as meats, vegetables, fruits, dairy products, milk, and manufactured products should be inspected as to their source, composition, and present condition. (9) Public baths should be established where the poor can have facilities for bathing free, or at a nominal cost. (10) These provisions should be enforced under conditions which will not interfere with the freedom of a liberty-loving people.

DR. J. W. PETTIT of Ottawa then delivered an address, choosing for his subject,

STATE CONTROL IN MEDICINE.

He detailed interestingly the progress of legislation in favor of stricter requirements for the licensing of medical students. The old diploma law in Illinois was instanced. He referred to the movement for the passage of a bill raising the requirements for the practice of medicine. This agitation would eventually lead to the wiping out of sectional lines among medical systems.

In the absence of Dr. Nicholas Senn of Chicago, who was to have delivered the address on surgery, entitled "The Surgical Treatment of Intestinal Tuberculosis." DR. JOHN H. FINLEY, President of Knox College, was introduced and spoke on

INTELLECTUAL BACTERIOLOGY.

He referred humorously to various kinds of germs, such as the micrococcus egotisticus, a germ which impells one to look out for himself and get everything he can. The wool-gathering microbe often afflicts students and brings about in them a revulsion to thoughts of labor. Another microbe is the bacillus bombasticus, and still another the micrococcus oratoricus, found frequently in Knox College. The spirillum Americanus abounds largely in the blood of such men as Admiral Dewey.

SECTION ON ETIOLOGY, STATE MEDICINE AND MEDICAL JURISPRUDENCE.

DR. DANIEL R. BROWER of Chicago in the Chair.

The first paper read in this Section was by DR. GEO. N. KREIDER of Springfield who stated that no law passed by the State Legislature will succeed in driving out the quacks who are practising in this State. He offered some suggestions regarding the position of the Board of Examiners, the fees to be charged, and the penalties to be imposed for violation of the statutes, if passed.

DR. HAROLD N. MOYER of Chicago followed with remarks on

WHAT SHOULD BE THE LAW IN THE STATE OF ILLINOIS?

He said that a new restrictive law is particularly needed because a great number of quacks are practising in the State under the protection of the present State license. He sanctioned the clause in the proposed new bill providing that each licensed physician shall register his name with the State every year.

DR. L. N. RYAN of Galesburg spoke of the advantages of separating the State Board of Health from the Examining and Licensing Board. The duties of the State Board of Health have become so arduous that it can not attend to the additional duties of an examining and licensing board.

DR. J. O. DECOURCY of St. Libory gave a summary of the laws governing expert testimony in other States and countries.

DR. SANGER BROWN of Chicago pointed out the defects of laws governing expert testimony in Illinois, and said that under the present law an expert is usually allowed a fair opportunity to express his views in the case on trial, and, if honest and competent, he need have no fear of cross-examination; but if dishonest and incompetent he is likely to fare badly and to cast discredit upon the profession.

DR. FRANK P. NORBURY of Jacksonville spoke on the same subject, and said there are three essential elements in connection with expert testimony: First, what is the own value of the expert, meaning his ability and honesty? Second, what are the established facts in the case upon which he bases his opinion? Third, what have been his opportunities for examination of these facts? Upon such a basis the courts recognize the value of expert testimony, and, in the general questions of science and skill are disposed to give just weight and consideration to an expert opinion when expressed.

DR. D. W. GRAHAM of Chicago read a paper in which he offered sugestions for outlines of a law regulating expert testimony. He said that in the minds of those desiring legislation on this subject there are two distinct things to be accomplished; one pertains to compensation of the expert witness, and the other looks toward some method of securing impartial testimony of such character as will command the confidence of all concerned.

DR. DENSLOW LEWIS of Chicago related his personal experience with the Dixon decision. He referred to its salient points as well as to the arguments of counsel and

the factors which apparently influenced the Appellate and Supreme Courts in arriving at the decision in this case.

DR. J. A. EGAN of Springfield talked on the subject of legislation necessary to promote better sanitation throughout the State.

The Society voted its unanimous approval of the new Medical Practice Bill to be presented at the next meeting of the State Legislature.

SECTION ON SURGERY, SURGICAL SPECIALTIES, AND OBSTETRICS.

DR. J. L. WIGGINS of East St. Louis in the Chair.

DR. HENRY F. LEWIS of Chicago read a paper on

UREMIA IN THE PROCESS OF CHILD-BEARING.

Uremia was defined as a condition of the system resulting from the retention in the blood of toxic products which should normally be eliminated chiefly in the urine. Eclampsia is a frequent sequel of uremic phenomena occurring in the course of the child-bearing process. The author in discussing the subject included the eclampsias, neuroses, psychoses, and other symptoms due to the toxemia accompanying or following pregnancy. He also included the albuminuria of pregnancy.

DR. FRANKLIN H. MARTIN of Chicago followed with a paper on

THE OPERATIVE TREATMENT OF CARCINOMA UTERI.

The following is a summary of the paper: (1) A microscopic examination of the tissue of the three portions of the uterus should be made whenever one of the well-known classical symptoms of carcinoma appears. (2) Carcinoma of the vaginal portion of the cervix should be treated by vaginal hysterectomy, including the upper portion of the vagina and as much of the base of the broad ligament as it is possible to include, with the ureters pushed well to the side of the pelvis. (3) Carcinoma of the body of the cervix should be treated by vagino-abdominal hysterectomy, with thorough removal of the broad ligament and the deep iliac glands. (4) Carcinoma of the body of the uterus should be treated by thorough removal of the uterus by vagina or abdomen so as to include the tubes and ovaries. The iliac glands should be removed if involved. (5) Neglected carcinoma should never be abandoned, but should be symptomatically relieved by curettement and cauterization, if the more radical procedure no longer seems practicable, with the possible hope of permanent relief in a small percentage of cases.

CONSERVATION OF TISSUE AND FUNCTION IN PELVIC SURGERY.

The author of this contribution was DR. HENRY P. NEWMAN of Chicago. The object of the paper was to stimulate investigation along the line of greater conservatism of the genital health of women. This may be aided (1) by a deeper study of the problems of cell nutrition and general metabolism, in order to determine the relative value of glandular and other structures, and the relation of the pelvic organs to the great systemic laws. (2) By seeking the habits of regimen of individual patients as to diet, dress, social and educational life, etc., for the causes of disease, remembering that these, if allowed to go uncorrected, may handicap the best efforts of medical science and effectually undo all that may be accomplished. (3) By giving to every definitely diseased structure the best opportunity to recover its function that science can devise, by prophylactic supervision of life and habits, by palliative treatment when it offers relief, and by prompt resort to surgical interference when it is called for in the interests of true conservatism.

DR. WELLER VAN HOOK of Chicago described a new device for facilitating operations about the anus. Starting from the proposition that existing technical methods fail to provide means of aseptic or even approximately aseptic operating, especially in view of Cohn's demonstration of the penetrability of fresh cautery-eschars by pathogenic micro-organisms, he reasoned that we should seek means of operating upon hemorrhoids and other anal lesions by dissection and suture. The device consists of a one-half inch rubber drainage-tube perforated near one end and drawn through a minute opening in a piece of medium-weight dentists' rubber dam tissue twelve inches square. It is essential to success that the bowels be prepared beforehand. The method recommended is (1) laxatives to thoroughly evacuate the bowels, on one occasion only, four or five days before the operation. (2) Daily colonic flushings thereafter. (3) After the laxatives have acted, one or two drams of bismuth subnitrate daily in divided doses to keep the colon empty. In operating on hemorrhoids, the following technic is employed: The sphincters are stretched, the rectum irrigated, and the tube with its covering introduced by means of an eight-inch forceps. To keep the umbrella-like device from slipping out, and to keep the dam in contact with the rectal wall, some strips of gauze are pushed up into it, between the tube and the dam. The dam is then pushed aside, the tissues washed again with antiseptics and the hemorrhoids excised and the wound sutured. A piece of iodoform gauze saturated with compound tincture of benzoin is then inserted between the dam and the anal wall. The apparatus and dressing are left undisturbed for four or five days.

A paper, entitled

THE TREATMENT OF ACUTE ABSCESS AND GANGRENE OF THE LUNG,

was read by DR. A. E. HALSTEAD of Chicago. He said that it is only within the last few years that well-known surgical principles have been applied to intrathoracic suppurative conditions. The term abscess of the lung was employed in the paper to designate only acute suppurative inflammation, non-gangrenous, which has its seat within the lung tissue; therefore, cavities filled with pus, formed either by a dilated bronchial tube or by destruction of lung tissue from tubercular infection, were not considered. The causes of acute abscess of the lung were dwelt upon, the principal one being lobar pneumonia. The surgical treatment of lung abscess comprehended puncture of the abscess, aspiration, incision of the lung, and drainage. The author dwelt at length upon the

technic of pneumotomy for abscess or gangrene of the lung.

DR. JACOB FRANK of Chicago read an instructive paper, entitled

PATHOLOGICAL HISTOLOGY OF INTESTINAL UNION AFTER THE USE OF THE FRANK BONE-COUPLER.

From a microscopic study of the healing of intestinal wounds after the use of various suture methods and mechanical devices, he had arrived at the following conclusions: (1) That no suture method insures an exact coaptation of the various layers. The Czerny-Lembert suture, considered one of the best of the many suture methods, does not insure a perfect line of apposition. In a specimen three weeks after operation, in which this suture had been used, there was a marked turning-in of the ends of the bowel. The mucosa in the specimen had not yet regenerated. (2) In regard to the invagination-suture method, he referred briefly to but one, namely, that of Harris, which he said would stand as a type for others. Union takes place, but the different layers are not in juxtaposition, and the lumen of the bowel is greatly encroached upon. (3) That all suture methods leave the subsequent lumen of the bowel more stenosed than either the Murphy button or the author's coupler.

A PLEA FOR EARLY OPERATION FOR LACERATIONS OF THE CERVIX UTERI.

DR. JOSEPH B. BACON of Chicago read a paper on this subject. After referring to the Emmet and Schrader operations for the repair of the cervix, Dr. Bacon described a new adaptation of pathologic facts, as recognized in the disease affecting non-striped muscles and fibrous tissues in other organs, and showed how like conditions may help to cause some of the serious results found in neglected cases of severe lacerations of the cervix. He claimed that the destructive changes found in both the fibrous and muscular tissue of the cervix, and later in the body of the uterus, are due to the persistent chronic inflammation, and that these changes can be avoided by an early operation, but if neglected, there is no limit to the destruction, and in time no operative procedure will more than relieve a part of the symptoms, and cannot remove the diseased tissue and cure the woman. He claimed that the same pathologic laws that explain cicatricial strictures of the rectum, as advocated by Harrison Cripps, apply equally well to the cicatricial changes that are found in the cervix uteri, because there is a like anatomic make-up of the muscles, glands, and excessive fibrous tissue normally present in both. First. the tendency of fibrous tissue, subjected to chronic inflammation, to become both hypertrophied and contracted, and second, the tendency of muscular fibers, when subjected to undue and persistent nerve irritation, to undergo fibroid degeneration with permanent atrophic contraction of its fibrous elements.

The following officers were elected for the ensuing year: President, T. J. Pitner of Jacksonville; first vice-president, Harold N. Moyer of Chicago; second vice-president, J. T. McAnally of Carbondale; permanent secretary, Edmund W. Weis of Ottawa; assistant secretary, W. F. Grinstead of Cairo; treasurer, George N. Kreider of Springfield. Place of meeting, Cairo; time, third Tuesday in May, 1899.

REVIEWS.

A SYSTEM OF MEDICINE BY MANY WRITERS. Edited by THOMAS CLIFFORD ALLBUTT, M.A., M.D., LL.D., Regius Professor of Physics in the University of Cambridge. Vol. V. New York: The Macmillan Co.

THIS volume begins with the discussion of the diseases of the liver, including under this category Weil's disease. Particularly excellent is the chapter on jaundice which, though founded on Frerich's old classification seemingly, is much more modern and inclusive. The attacks of gallstone colic without the presence of icterus are clearly presented and the other diseases of the hepatic organ are considered in full. We scarcely can commend the addition of icterus neonatorum to diseases of the liver, but perhaps this condition is as well considered here as under any other caption. The pancreatic diseases are next taken up by Dr. Reginald H. Fitz, the only American contributor to the volume except Dr. Henri A. Lefleur of Montreal, who has contributed an article on "Amebic Abscess of the Liver."

The diseases of the kidneys are next described, beginning with general pathological considerations of the renal functions. Nephroptosis, in which the distinction between floating and movable kidney is strictly defined, and the albuminuric renal diseases follow. The surgical diseases of the kidney are next considered, together with an admirable little chapter on the differential diagnosis of renal tumors.

One will read the chapters on the diseases of the lymphatic and ductless glands with especial interest, not only because of its inherent excellence, but because its authors' names are familiar in this domain of medicine—Drs. Ord, Mackenzie, Rolleston, and Murray. Scrofula is discussed by Professor Allbutt, and its surgical aspect by Mr. Pridgin Teale. We note only that the *habitus lymphaticus* of Paltauf is not mentioned. "Obesity" and its treatment are next taken up in an admirable manner by Sir Dyce Duckworth.

There is nothing better in the whole system than Dr. A. Ransonie's "General Pathology of Respiratory Diseases." It is a treatise in itself and is made so clear that, although this is not a work for students, it would well repay them to read this short monograph. It is well supplemented by Dr. Mackenzie's article on the physical signs of diseases of the lungs and heart. The graphic charts given with it elucidate the text exceptionally clearly. The volume closes with three chapters devoted to the diseases of the nose, the pharynx, and the larynx respectively.

One cannot fail to be impressed in the reading of this volume with the philosophical treatment of the subjects, quite in keeping with the tone of those which have gone before. The conception of this system of medicine is unique and emphasizes in no uncertain way the fact that the modern physician must be a thinking man if he would be a

physician at all. The scientific tone, the logical presentation of facts, the admirable arrangement and, above all, the authority of the various articles is bound to make this system a classic among books of its kind.

APPLIED BACTERIOLOGY. An Introductory Handbook for the Use of Students, Medical Officers of Health, Analysts, and Sanitarians; 464 pages and nine plates. By T. H. PEARMAIN and C. G. MOOR, M.A. Second edition. London: Baillière, Tindall & Cox, 1898.

THIS handbook of bacteriology is a very commendable one. The purpose is to give an account of the principal facts of bacteriology which may have practical application. After a brief history of bacteria and reference to their origin, growth, and destiny, the authors devote about 100 pages to a description of bacteriologic apparatus, methods of bacteriologic study, methods of spread of disease, immunity, and sero-therapy. The discussions of individual organisms include that of tuberculosis, leprosy, anthrax, typhoid, diphtheria, cholera, erysipelas, gonorrhea, glanders, syphilis, influenza tetanus, malignant edema, bubonic plague, pneumonia, relapsing fever, scarlet fever, smallpox and vaccinia, hydrophobia, malaria, actinomycosis, yellow fever, cholera nostras, infantile diarrhea, and the pyogenic organisms. By way of criticism, it may be said that scientists do not admit that the organisms which are attributed as causative of some of these diseases, are so in reality, and it would seem that the authors have not always been as critical as they are warranted in being by fact. For instance, they state positively that the organism causing influenza is that described by Pfeiffer, but such a bold statement does not carry conviction. The writers' inclinations toward the eager acceptance of the claims of bacteriology are further seen in their statements that "Lustgarten's bacillus is probably the specific organism of syphilis; a streptococcus described by Klein in 1882 is probably the cause of scarlet fever."

There are chapters on disinfection and disinfectants, on fermentation, and on the bacteriologic examination of water, milk, filters, etc., and the volume closes with a discussion of the characters of some commonly occurring organisms not fully described in previous pages. The book may be recommended as a fairly accurate reflection of the status of bacteriology at the present time. It will appeal to the general medical reader, to the dilettante in science, and to those engaged in pursuits allied to medicine rather than to the advanced medical student.

A MANUAL OF GENERAL PATHOLOGY FOR STUDENTS AND PRACTITIONERS. By WALTER SYDNEY LAZARUS-BARLOW; 795 pages; $5, net. Philadelphia: P. Blakiston, Son & Co., 1898.

THIS is one of the important books of the year. Not that it contains much that is new, but the writer's point of view is in many instances so individualized and so well presented that old facts are laden with greater suggestiveness. During the past few years a large number of most commendable treatises on pathologic anatomy have appeared, but there has been a dearth of works on general pathology. The vegetable micro-organisms, with especial reference to the bacteria, are discussed before the pathology of the circulation and the blood and the pathology and sequels of inflammation are taken up, while the pathology of infection follows these chapters. This is an arrangement which commends itself to the reader. So much cannot be said for the arrangement and sequence of some of the other chapters. For instance, the pathology of nutrition is sandwiched between the pathology of shock and collapse and the pathology of respiration, when it should follow the chapters on inflammation.

The author's pages give much evidence that he has a comprehensive grasp of the subject, and that he has a logical, temperate mind. The book is one that will be read by the student because its context should be as familiar to him as the truths of physiology, and by the physician because he will find it not only interesting but enlightening. We regret to say that the printing, paper, and binding are all inferior, as is the case with so many of the books printed in Great Britain and sent to this country to be published.

ATLAS AND ESSENTIALS OF PATHOLOGICAL ANATOMY. BY DR. O. BOLLINGER. Vol. 1. Circulatory, Respiratory, and Digestive Apparatus. New York: Wm. Wood & Co. (Wood's Medical Hand Atlases.)

THIS excellent little volume admirably fulfils its purpose. The sixty colored plates are alone worth the price of the book. The text shows many barbarisms of construction and diction which might easily have been obviated by submitting the translation to a competent medical reader. The book is well bound and satisfactorily printed on good paper.

THERAPEUTIC HINTS.

For Renal Colic.—

Morphin hydrochlorat. . . .	gr. iv
Atropin sulphat.	gr. $\frac{1}{10}$
Ag. laurocerasi	ʒ vi.

M. Sig. One teaspoonful as initial dose, cautiously increased or repeated if indicated.

For Phosphorus Poisoning.—

℞ Ol. terebinthin.	ʒ iiss
Syr. aurantii cort.	ʒ iiss
Mucilag. acaciæ	ʒ iii.

M. Sig. To be taken in three portions, each time well shaken.—*Vetter.*

For Coryza.—Gaudin asserts that the most intense coryza can be arrested, especially in the initial stage, by inhalation through the nostrils of the vapor of formic aldehyd in forty-per-cent. solution. This treatment also helps to diminish the fetidity in ozena.

For Acne Vulgaris.—

℞ Sulphur præcipitat. . . .	gr. lxxv
Zinci sulphat.	gr. xlv
Potassii sulphat. } aa . .	ʒ iss
Potassii sulphurat. }	
Aq. rosæ	℥ iii.

M. Sig. To be used as a lotion, at first twice daily, later once a day.

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXXIII. NEW YORK, SATURDAY, JULY 30, 1898. NO. 5.

ORIGINAL ARTICLES.

HEREDITARY INFANTILE SYPHILIS.[1]

BY J. HENRY FRUITNIGHT, M.D.,
OF NEW YORK;
VISITING PHYSICIAN TO ST. JOHN'S GUILD HOSPITAL.

HOWEVER interesting the various sources of acquired infantile syphilis may be, it is not proposed to consider them here, but only to treat of the hereditary variety. Nor is it intended to cover the whole field, for then the limits of this paper would extend further than the time allotted. Nor is it meant to be implied by the title that the author believes in the existence of tardy or belated hereditary syphilis, for he is inclined to agree with those writers who are of the opinion that in those cases which are designated as *syphilis hereditaria tarda*, the symptoms of the disease probably escaped recognition earlier in life. Strictly speaking, the term hereditary syphilis should only apply to those cases in which the infection occurs at the time of conception. From a clinical standpoint it is more practical to designate all cases, whether the subject is infected at the time of conception or subsequently, as congenital syphilis.

It has been definitely determined that there are three modes of infection: First, the woman being syphilitic, the ovum is infected; second, infection of the ovum through the spermatozoa; and, third, after conception by the intra-uterine transmission of the infection to the fetus. As there is no direct communication between the lymphatics or blood-vessels of the mother and the fetus, the transmission must take place through the layer intervening between the placenta and the decidua. Hence, the infection of the fetus probably depends upon the relative strength of the leucocytes on the fetal and those on the maternal side. If the placenta be healthy, it is possible for the infant to escape the infection even although the mother herself be syphilitic. If infection of the woman does not occur until about the last two months of pregnancy the fetus usually escapes the disease. The first effect of infection upon the woman is sterility, but with the lapse of time its virulence may abate; pregnancy will occur which is usually interrupted before the seventh month. The disease may be inherited from either one or from both of the parents. If both are syphilitic the child is usually syphilitic, although it need not necessarily be so. Nor is the disease more severe in the child if both parents are syphilitic than if one parent only be affected. The stage of the disease in the person of the progenitor will determine the transmissibility of the infection to the offspring, for if both parents are suffering from secondary symptoms transmission will be almost certain. If active treatment shall have been carried on for several months and the child be born when no active symptoms are present in the parents, or if the symptoms are tertiary in character in the parents, the child will probably escape. The first-born is more likely to suffer more severely from the infection than later born children, provided infection of the parents has occurred previous to the birth of all the children.

Quite recently in the *Wiener Klinische Wochenschrift* for 1897, vol. x, p. 564, Dr. K. Hochsinger has advanced a new theory of the development of congenital syphilis. He maintains that in the fetus and in young infants, in its early manifestations, congenital syphilis is characterized by a tendency to diffuse infiltration, whereas in the early forms of acquired syphilis the type of a circumscribed cell proliferation is observed. He also claims that another peculiarity of congenital syphilis consists in the existence of diffuse changes in the integument analogous to those found in the viscera of the fetus. In support of the theory it is pointed out that the diffuse syphilitic inflammatory processes always first attack the large intestinal glandular organs of the fetus. There is no syphilitic fetus and no syphilitic stillbirth in which the liver is not the seat of a diffuse vascular and interstitial disease, and in two-thirds of all such cases the kidneys, pancreas, and lungs are unquestionably similarly affected. Hence, the logical conclusion is, according to Hochsinger, that the virus of hereditary syphilis must possess a predilection for the parenchyma of the glands, otherwise it would be impossible to explain the fact that syphilitic fetuses are attacked by a diffuse inflammation of the intestinal glands, while all the tissues of the organism escape such syphilitic affections during the early months of fetal life. The history of the development of the fetus will explain this, for during fetal development the syphilitic virus finds in these organs, which have a generous blood and lymph-supply, the most favorable places for its activity. In those parts of the organism in which the

[1] Read before the Northwestern Medical and Surgical Society of New York, May 18, 1898.

circulation is less free, as in the long bones of the fetus, the syphilitic lesions first develop at the point of largest blood-supply, and not at all in the adjacent structures. Hence, it is wrong to regard the visceral affections of the fetus and infant as tertiary in character. They should rather be looked upon as the first indications of congenital syphilis, and resemble those changes which may be demonstrated in the diffuse syphilitic inflammatory conditions of the skin in the infant. The natural history of fetal development likewise explains the frequent death *in utero* of the children of syphilitic parents.

The lesions in hereditary syphilis are more uniformly present in the bones than elsewhere. The long bones are chiefly involved, and usually at the junction of the shaft with the epiphysis. Of the viscera, the liver is probably more often the seat of syphilitic lesion in the fetus and the newly born child than any other organ. There may be an interstitial or a gummatous hepatitis, or a combination of the two. The intestinal canal very rarely shows any lesion. Catarrhal rhinitis and pharyngitis are almost constant symptoms of early cases. Fissures at the anus are frequent, extending occasionally into the rectum. At the time of birth symptoms are present in a very small number of cases, and then the infection is extremely severe and the child lives but a few days. The general appearance of these patients is miserable in the extreme. The body is greatly emaciated, the skin is wrinkled, and has lost its elasticity, the temperature is apt to be subnormal, and the spleen and liver are usually enlarged. They suck feebly or not at all, and, if untreated, die very soon.

The more intense the infection the earlier the symptoms will appear. They are usually observed between the second and sixth week, although the period is variable. Some observers have stated that several years may elapse before the appearance of symptoms, but very good authorities hold that if they do not appear within one year after birth the child may be considered free from the infection. Three-fourths of the subjects develop symptoms within the first three months. Generally the first symptom is the coryza, commonly called "snuffles," which is very persistent. Sometimes the constitutional symptoms precede the local ones, but usually the reverse obtains. At times a hoarse cry may accompany the coryza without the larynx participating in the catarrhal condition. Tenderness may exist about the joints, due to epiphysitis. Soon after the coryza eruptions will appear, first on the palms of the hands and soles of the feet and then on the face. Fissures will appear at the angles of the lips, and mucous patches will be seen on the lips and inner surface of the cheeks. The latter may also be seen at the verge and just within the anus. The eruption is usually macular, small, and dark-red in color. It is sometimes circular, and often a little elevated. It is not accompanied by any surrounding inflammation nor by itching. It gradually becomes coppery in hue, and requires from one to three weeks for development. It lasts for a period varying from three to eight weeks. Of course, if active treatment be employed, the period of its existence is shortened. Papular and squamous eruptions may also at times be present. The mucous patches and the fissures are among the most characteristic features of hereditary infantile syphilis. Radiating scars at the angle of the mouth are, therefore, invariable diagnostic features of the disease. These fissures are deep, bleed easily, and are very obstinate to treatment. Lymph-nodes are infrequently or seldom present. That condition of the teeth known as "Hutchinson's teeth" cannot be considered as pathognomonic of hereditary syphilis.

The prognosis in hereditary infantile syphilis is generally worse than in acquired infantile syphilis. This is true not only as regards life, but also as to the determination of the future constitution of the subject. It is also very difficult to reduce to a minimum the remote baneful influences of the infection. The later the disease manifests itself after birth the better will be the prognosis. In the hereditary variety relapses are not so apt to occur as in the acquired cases.

If it be permissible to perpetrate an Irish bull, the treatment of a syphilitic infant should begin before there is an infant. That is, if a syphilitic woman becomes pregnant she should at once be placed upon specific treatment, and thus probably secure the escape of the fetus from the threatened infection. In my own experience I can recall two particularly remarkable cases of this character. A syphilitic woman had aborted seven successive times, varying from the third to the seventh month of pregnancy, as a result of her infection. She consulted me at about the first month of her eighth pregnancy. I at once placed her upon specific treatment, with the addition of tincture of iron and chlorate of potash, as used by the late Professor Fordyce Barker, and at the termination of the ninth month delivered her of a large, healthy boy, who has never developed any indication of the disease. The other case was that of a woman similarly affected who had suffered from four successive abortions due to syphilitic infection. The same course was pursued as to treatment, with equally gratifying results as in the first case.

There is among physicians a disposition to stop treatment of a pregnant syphilitic woman toward the

last months of gestation. This is an error. Treatment should be pushed vigorously up to the very last moment. When it is known that either one or both parents are syphilitic, procreation should be forbidden for a period of at least two years, during which active treatment should be instituted. Then, after six months shall have elapsed without treatment and with no manifestations of the disease, procreation may be permitted.

When there is a reasonable suspicion of the disease in an infant treatment should be begun immediately after birth and vigorously continued. The old indirect method of treatment through the mother's milk is futile, and is deservedly no longer in use. The remedy *par excellence* is mercury. In young infants the best method of treatment is that by inunction. The place of inunction should be changed from day to day. A convenient way of using this method is to place a piece of the ointment on the belly-band, and by the movements of the child and the ensuing friction it is easily rubbed into the skin. The officinal blue ointment is used in this way, but it must be diluted according to the age of the infant. Or the gray powder or the bichlorid of mercury may be given internally. The former in doses of 1 grain four times daily; the latter in doses of $\frac{1}{60}$ of a grain four times daily, well diluted. If the symptoms be urgent, or if it be desired to bring the system more rapidly under the influence of the mercury, calomel should be given in doses of $\frac{1}{10}$ of a grain four times daily. The treatment with mercury should be continued for at least one year. During the last half of the year the amount per day can be reduced by one-half or by one-third. If the mercurial treatment be persisted in for a longer period than one year it will be advisable to interrupt its administration occasionally. Some have expressed a fear of administering mercury to children for so long a period, claiming that it would produce dysentery, salivation, and other disagreeable complications. This fear, I think, is not well grounded, for children tolerate mercury extremely well, and very much better than adults. Salivation is very rare indeed. The symptom which would indicate that the child is becoming profoundly affected by the drug is the occurrence of pronounced anemia. I myself give to children from half a year to two years of age in the treatment of diphtheria the bichlorid of mercury in doses of $\frac{1}{48}$ to $\frac{1}{32}$ of a grain every two hours, kept up for three and four and even five days at a time, and have yet to see any dangerous symptoms or conditions arise from the administration of these doses. If the symptoms resemble those of the tertiary stage in the adult the iodid of potassium may be given, from 20 grains to 2 drams *per diem*, according to the age of the child and the severity of the case, and, of course, largely diluted.

In conjunction with the specific treatment, the tonic treatment is of great importance, not only as regards the syphilitic infection, but with the object of getting the constitution of the patient in the best possible condition. Among the remedies to be employed cod-liver oil, iron, arsenic, and nux vomica hold a prominent place.

The local lesions of hereditary infantile syphilis will naturally demand the same treatment which is given such lesions in the acquired variety of the disease, whether in the adult or infant, the strength of the remedies employed always being adapted to the age of the patient.

THE TREATMENT OF FRACTURE OF THE PATELLA BY IMMEDIATE SUTURE.

BY WILLIS G. MACDONALD, M.D.,
OF ALBANY, N. Y.

SUCH a diversity of opinion apparently exists among surgeons concerning the best method of treatment for simple fractures of the patella that I feel constrained to report my recent personal experience, confined to a limited number of cases treated by immediate operative interference. After a considerable experience with various forms of dressings, with fair, indifferent, and positively bad results, and a few cases of suture by the open method, I abandoned them all for the method to be subsequently described. No claim for originality in the various steps of the operation is raised. A number of surgeons have employed the plan in part or with distinctive modifications. The technic carefully followed has yielded uniformly favorable results.

Fractures of the patella having their origin in muscular action are usually transverse, the line of fracture being below the isthmus of the bone. Fully eighty per cent. of them are of this character. Fractures due to direct violence are usually stellate, or distinctly oblique. The encircling suture may not be applicable to all fractures of the second variety, that is, fractures due to direct violence. More or less effusion of blood into the joint is a part of every patellar fracture. The effusion always aids in the displacement of the fragments, and unless removed prevents close apposition of the fractured surfaces.

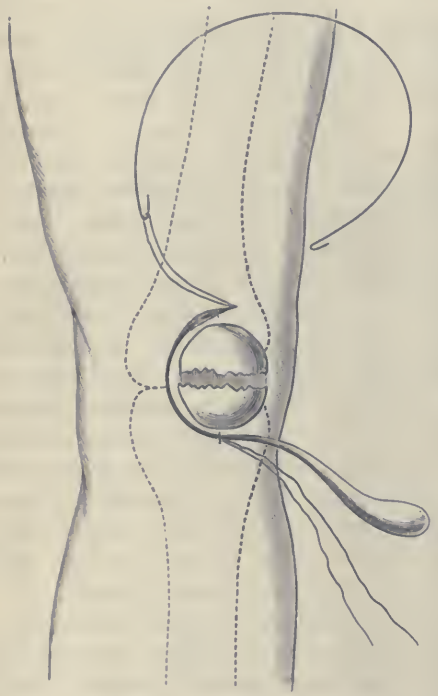
Operation.—As soon as the patient is received at the hospital or place of dressing the limb is thoroughly prepared by scrubbing, shaving, etc., following the usual plan of the surgeon for the sterilization of the skin. Either general or local anesthesia may be employed. I have used Schleich's solution of cocain and morphin in normal salt solution with satisfaction, although local anesthesia doubtless increases

the dangers of infection. However, no accident has followed.

The instruments and appliances required are few: A broad scalpel, two artery forceps, a set of mounted needles (Pean's full curved, three sizes), scissors, a fine needle and catgut, a bobbin of strong silk, a yard of heavy silver wire (sixteen or eighteen gage), a metal cannula of medium size, sterilized gauze, aristol, bandages, and plaster of Paris.

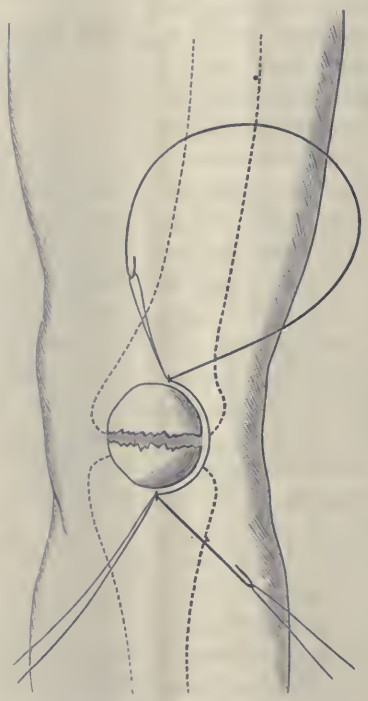
After the usual preparations to secure asepsis have been completed, the limb is fully extended, the surgeon draws the lower fragment of the patella as high as possible, enters the point of the scalpel close to the apex of the bone, and carries it directly inward and upward through the ligamentum patellæ into the synovial sac above the ligamentum mucosum. The scalpel is now withdrawn, leaving a puncture of the joint at its dependent part one-half of an inch in length. This puncture is now covered with sterilized absorbent gauze, and by massage and flexion the joint is practically emptied of effusion through the puncture. Should any difficulty be experienced in removing the effusion, always fluid for several hours after the injury, the metal cannula may be introduced to facilitate its flow. After the removal of the fluid the fragments can usually be brought in apposition. By a little coaxing, bits of membrane or bursa can be removed from between the fragments, and distinct bone crepitus obtained. An assistant now holds the fragments. The surgeon selects a mounted needle, the curve of which is appropriate to the size of the patella, threads it with a loop of strong silk, and passes it in the manner shown in Figure 1. The point of the needle is introduced into the puncture close to the apex of the patella, carried through its tendon laterally, through the aponeurosis at the side into the tendon of the extensor femoris, keeping close to the patella all the time, and is made to present underneath the skin. A touch with the scalpel permits the point of the needle to be reached, and the loop of silk withdrawn. The needle is then removed, and another loop passed in a similar manner on the opposite side. By means of these two loops of silk the silver wire is drawn into postion. (Fig. 2.) The relation of the fragments is now re-examined to determine the absence of tissues between them, and that no tilting exists. When properly adjusted they are steadied by an assistant, while the surgeon, by strong traction on the silver wire, using forceps on each end, buries it in the tissues around the patella and twists it close to the apex. The wire is cut short and buried in the wound. (Fig. 3.) If the process has been carefully followed the fragments will be found in absolute approximation, surrounded and supported by this suture or subcutaneous splint.

Fig. 1.



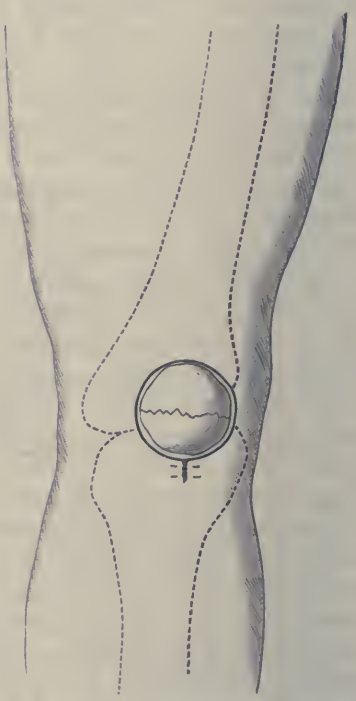
Showing method of passing needle with silk loop.

Fig. 2.



Silk loops in position as carriers for silver wire (shown partly drawn into position).

Fig. 3.



Silver wire in position and buried in the tissues. Punctures closed by catgut sutures.

The punctures are now closed by fine catgut sutures, dusted lightly with aristol, covered with plain sterilized gauze, and the whole limb enclosed in a plaster-of-Paris dressing. The patient is kept in bed with the foot elevated for a week, and carefully watched for any reaction. Afterward he is allowed to sit up, and after two weeks go about on crutches.

FIG. 4.

Pean needle of proper curve (one-half size).

The dressing is removed at the end of six weeks, and a molded posterior splint adjusted. At the end of twelve weeks all dressings are removed and full use of the limb allowed.

Results.—During the last three years in which I have employed this method exclusively for the immediate treatment of patellar fractures, in all seventeen patients were treated, the majority in the Albany Hospital. Eleven were transverse fractures, 2 stellate, and 4 were cases in which the patella had been sawn through in partial resections or erasures

FIG. 5.

Skiagraph showing a lateral view of the knee-joint after transverse fracture of the patella, treated by encircling suture.

of the knee-joint. No single case of infection followed the operation. The heavy silver wire sutures have never required subsequent removal or have interfered with the function of the joint. Complete or useful restoration of function has occurred in every case of simple fracture, and all of the patients (trainmen, stokers, etc.) have returned to their previous occupations. Two patients were trainmen, a trying occupation for bad limbs. In one case the patient, a heavy woman, some six months subsequent to her first fracture, was thrown from a step-ladder and the patella rebroken. The second time the joint was opened by a free incision and the broken wire removed. In examining the fragments bony union was apparent. Dr. Albert Vander Veer, who assisted at the second operation, was satisfied on that point as well as myself. The patients were operated upon usually immediately after the injury, although in two instances the operation was delayed until the fourth and fifth day. The ages of the patients ranged from twenty-three to sixty-five years. Several of them were very stout, especially the women.

The accompanying skiagraph was taken eight months subsequent to the injury by Dr. William Hailes, Jr. The apposition is satisfactory, bony union is apparent, and there is no loss of function in the knee-joint. This view represents some distortion of the position of the silver wire, which is apparent rather than real. Another skiagraph taken of the same knee at the same time shows the position of the wire suture the same as the drawings used to illustrate the technic of the operation.

The advantages of the method may be said to be:

1. Uniformly good results.
2. Shortened period of convalescence.
3. Freedom from the dangers of sepsis if ordinary skill is employed.
4. Simplicity in the technic.
5. The encysted silver wire suture continues after all dressings are removed to act in maintaining the position of the fragments, and in preventing stretching in fibrous or defective union.
6. Bony union is made possible in all, and does occur in many cases.

A STUDY OF THE RECENT EPIDEMIC OF TYPHOID FEVER AT ST. CHARLES, MISSOURI.[1]

BY H. H. VINKE, M.D.,
OF ST. CHARLES, MISSOURI.

THE following is a brief report of an epidemic of typhoid fever which occurred at St. Charles, Mo., during the past fall and winter. There were upward of 200 cases in a population of 7000, but I have been able to obtain accurate reports of only 161 cases. A few physicians ignored requests for

[1] Read before the Missouri State Medical Society.

reports of their cases, some claiming that such reports are useless, while others seemed to look upon investigations of this nature as impertinent inquiries into their business affairs.

I do not think that in any of these cases the Widal test was made use of to confirm the diagnosis, but the characteristic typhoid symptoms were present in all, and they were observed by experienced physicians. It is undoubtedly true that at the time of an epidemic of this character there is a tendency to look with suspicion upon all continued fevers, and typhoid fever no doubt is at times diagnosticated when really some other disease exists; on the other hand, however, at such a time many atypical forms occur and many irregular cases of this affection are not recognized as enteric fever, simply because they do not follow accurately the course laid down in text-books.

Of these 161 cases, 149 patients recovered and 14 died, a mortality of about 8.7 per cent. Two cases occurred in July, 6 in August, 7 in September, 10 in October, 14 in November, 48 in December, 60 in January, and 14 in February. Eighty-seven cases occurred in males and 74 in females. I have records of 11 cases in children under five years of age, 29 cases between 5 and 10 years, 66 between 10 and 20 years, 27 between 20 and 30 years, 4 between 40 and 50 years, 2 between 50 and 60 years, 1 case between 60 and 70 years, and 1 between 70 and 80 years. The youngest person was 2 years of age, the oldest 75.

Complications and accidents arising in the case of those patients who succumbed were of the following nature: Intestinal hemorrhage in five cases, in patients aged 18, 20, 22, 31, and 33 years, respectively, death occurring on the 14th, 19th, 20th, 23rd, and 28th day of illness. Intestinal perforation and peritonitis proved fatal in 4 cases in patients aged 8, 18, 49, and 35 years, respectively. The patient aged 8 years was a little girl who died rather suddenly of intestinal perforation four weeks after the subsidence of the fever; the other three patients died on the 25th, 21st, and 25th day of illness. Pneumonia was a fatal complication in two cases, in patients aged 18 and 35 years, the first patient dying on the 11th day of illness, the second on the 20th day. Meningitis was a fatal complication in one case, in a patient aged 14 years, who died on the 28th day of illness. Active delirium, ending in coma and death, set in in one case, a patient aged 23 years, who for three weeks had an extremely light attack of typhoid fever. This patient died on the 31st day. One patient, aged 18 years, succumbed to erysipelas, while recovering from a very severe attack of typhoid fever. One patient, an epileptic, aged 14 years, died on the 24th day of illness, of exhaustion. The youngest patient who died was 8 years of age, the oldest 49 years.

Complications and accidents in those who recovered were of the following nature: Intestinal hemorrhage in 9 cases, the patients aged respectively 2, 6, 6, 4, 14, 19, 30, 33, and 35 years. Intestinal hemorrhage was by no means always a fatal or even grave accident; in a few instances it brought the fever to a rather abrupt close, which led to an early and complete recovery. Orchitis was observed in one case, in a patient aged 32 years. Lymphangitis of the left leg was met with once, in a patient aged 26 years, nephritis in a patient aged 42 years, and abscess of the lung in a patient aged 10 years. Peritonitis set in in one case on the 20th day of illness. It was probably not the result of perforation, but in all probability was set up by micro-organisms wandering through the coats of the intestines. Abortion at the 6th month of pregnancy was a complication in one case. The mother made a perfect, though somewhat slow, recovery; the child died 24 hours after birth. The temperature at the time of labor was 102.5° F., and six hours later, 104.5° F. In the patient 75 years of age, the oldest that came under observation, an abscess of the left cornea, resulting in the total disorganization of that eye, considerably delayed recovery; large bed-sores in this case still further tended to render recovery very slow.

Recrudescence was of not infrequent occurrence, but I have a record of only one case of true relapse. It would seem to be difficult to explain why true relapse after typhoid fever ever occurs, for if one attack of this fever lends protection and immunity against subsequent attacks, the occurrence of a second attack immediately after the subsidence of the primary attack should not be possible; and if relapses are really of frequent occurrence they would constitute a powerful argument against the usefulness of serum-therapy. Bronchitis was a frequent complication but did not prove fatal in any case. More or less profuse sweats were observed during the entire course of the fever, in many cases, and sudamina at times covering the entire body were noticed during convalescence in these cases. In many instances the prodromic state was altogether absent, the invasion being sudden and abrupt, and the fever high from the beginning. At times obstinate constipation was very troublesome, and in some of these patients I found an unusually slow pulse.

In most instances the patients were treated by the expectant-symptomatic method. Patients were sponged freely whenever the temperature rose above

103° F., and grave symptoms and accidents were treated as they arose. The result of this particular form of treatment has been satisfactory, for the death-rate was but 8.7 per cent. In four cases, however, Yeo's method (chlorin water with tonic doses of quinin) was used exclusively; of these four, two patients died, one recovered after a tedious illness lasting five weeks, and one made a rapid recovery. Three patients were treated exclusively by the antiseptic or Woodbridge method. I will premise my remarks on the result of this particular treatment by the statement that the number of cases in which it was employed was altogether too small to permit me to deduce any conclusions therefrom, and then, too, I am not quite certain as to whether the ideal Woodbridge treatment was brought into use. Tablets containing podophyllin $\frac{1}{100}$ of a grain, calomel $\frac{1}{16}$ of a grain, guaiacol carbonate $\frac{1}{4}$ of a grain, menthol $\frac{1}{16}$ of a grain, thyol $\frac{1}{16}$ of a grain, and eucalyptol were administered every half hour during the first 24 hours, except when the patient was asleep; after this they were given one every hour during the next two days, and one every 2 hours thereafter.

One of the patients had fever 41 days, one patient recovered after 28 days of illness, and one after 24 days. Such a result certainly does not entitle this form of treatment to the name of abortive. The *rationale* of this antiseptic treatment would seem to be difficult of explanation, for even if the intestinal canal could be rendered thoroughly aseptic or antiseptic, it would be difficult to explain how these antiseptics could reach the blood and the liver, and other distant organs in sufficient strength to kill the bacillus typhosus and the toxins thereof. These micro-organisms, as is well known, are not only found in the intestinal canal, but have been discovered in nearly all the organs of the body, and it does not seem to be settled which particular part of the economy is primarily attacked by them.

There is no reason to doubt that the bath treatment, or the so-called Brand method, offers the best chances for recovery, and is attended by the lowest mortality. It is extremely difficult, however, to overcome the prejudice against the cold bath; then, too, a lack of intelligent nurses in the country will probably render the use of the method impracticable except in rare cases; but there is every reason to believe that the closer we come to the rigid Brand method, the better will be the results. The frequent use of water for washing out and cleaning the mouth, the free administration of water, the frequent thorough and prolonged sponging of the patient whenever the temperature rises above 102.5° F.—in a word, hydrotherapy, in the broadest interpretation of that term, together with careful and intelligent nursing, would seem to constitute the best and safest routine treatment in private practice.

It seems to be pretty well settled that the bacillus typhosus is the sole and positive cause of enteric fever, and that it is transmitted by means of the water ingested, or by foods and drinks mixed with infected water. A realization of these facts caused me to make a careful inquiry into the water used by those attacked by the fever. It must be added that at the very outset of our investigations I looked for some common source of infection. Infected cisterns and wells might readily give rise to sporadic cases of enteric fever but could scarcely explain the occurrence of an epidemic of this disease. No cases of typhoid fever occurred in the immediately surrounding country. I therefore had to look for a common source of infection within the city limits. This inquiry disclosed the fact that 130 of the patients drank hydrant water exclusively or occasionally, either at home or at their places of employment, and 31 drank cistern or well water exclusively, at any rate I have no proof that they ever drank hydrant water, but it is possible that quite a number of these drank hydrant water without recalling the fact.

Our water-works are situated in the very heart of the city and the water is obtained from the Missouri River. We have not a perfect system of sewerage, and sewers have in several instances been built in the most prominent thoroughfares. These sewers carry the sewage directly into the river. In March, 1897, a sewer was built on Clay Street, having connections with St. Joseph's Hospital and several residences in this street. Clay Street is about four blocks above the "intake" of our water-works and empties its contents into the river. The first case of which I have any record occurred on the 6th of July, in a house on Clay Street having connections with the sewer above referred to. I secured records of the stage of the water in the Missouri River at St. Charles from the Missouri River Commission, and these records show that in the fall and winter of 1897 the river was lower than it had been for 15 years. During these months the refuse from the Gas Works (which are located about a block above the water-works) could be detected in the hydrant water by a distinct coal-tar taste and odor, and this circumstance still further confirms the well-known fact that whenever the river is low and the current slow and sluggish, self-purification is slow and imperfect. Here, then, we have a record of an unusually low stage of the river, and a positive history of contamination with the excreta of the first typhoid-fever patient of which we have any report. When we add to this the fact that at least 130 out of 161 patients drank hydrant water, either exclusively or occasionally, the

conclusion that in all probability the hydrant water was responsible for the epidemic would seem to be justifiable. The epidemic began to subside as soon as local rains materially increased the volume of water in the river and after the people had been instructed to drink water only after it had been boiled. I will add here that specimens of water for bacteriologic examination were sent to the Secretary of the State Board of Health from a suspected cistern, a well, and from the river after it had risen. No typhoid bacilli were found and the river water contained less organic matter than the two other specimens. Bacteriologists know how very difficult and tedious these examinations of water are, and that painstaking and careful labor of several months' duration often fails to reveal the bacillus typhosus in water that is known to be infected. Failure to find these bacilli does not prove, therefore, that they are absent.

If it be true that the bacillus of Eberth is the sole cause of typhoid fever, and if it be true that this bacillus reaches the human economy almost exclusively through infected water, the inference that a pure and healthy water-supply would render the occurrence of typhoid fever impossible is inevitable. The question of the greatest importance in connection with the subject is, How can we best secure for the individual, the family, and the community a healthful water-supply? If every individual would drink water only after it has been boiled the occurrence of typhoid fever would indeed be rare. Boiling the water, however, will probably only be rigidly carried out at the time of an epidemic. Dr. Bashore, in a most excellent article on "The Prevention of Typhoid Fever in Rural Districts," which appeared in the *Medical Record* of January 15, 1898, points out how a pure water-supply may be obtained in these localities. The people should be taught that cistern-water is the safest and most wholesome for drinking purposes. Wells are constantly liable to contamination because they admit of the entrance of ground-water, and it has been shown that the bacillus of Eberth retains its vitality for an indefinite period in the soil. The walls of the cistern should be of hard-burned brick laid in a first-class cement in such a manner that they are absolutely water-tight. The cistern should have a capacity of about ten gallons a day for each member of the family for two months. By a properly arranged cut-off the first rain-water should be permitted to escape. The walls of privy-vaults should be constructed like those of the cisterns, and the vaults should be frequently cleaned and disinfected. The construction of these cisterns and privy-vaults should be under the direction of the proper county or city authorities. In large cities the water-works should be under the absolute control of the municipal government. Corporations cannot be relied upon to take immediate steps to improve and correct the water-supply when it has become polluted if such changes and improvements entail the outlay of considerable money. The intake of these water-works should be far beyond a point where contamination by sewage is possible, or, where this is impracticable, the use of effective filtering apparatuses should be made compulsory.

WAR ARTICLES.

NEWS OF THE WEEK.

AUTHENTIC reports as to the health conditions of our men in Cuba are scarce, but from all we can gather there is as yet no reason for apprehension. The cases of yellow fever which have appeared in the army near Santiago have been comparatively few and the disease is of a mild type. Very few deaths have occurred and the vigilance and effectiveness of the medical corps is worthy of warm commendation.

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Santiago is a very hot-bed of yellow fever and the Government has wisely decided that the force necessary to occupy it shall be made up of immunes from our Southern States. Meanwhile the great majority of the troops are being moved back to the hills and camps have been selected with a view to hygienic locations and conditions.

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The care of the yellow-fever patients in and about Santiago has been given in charge of Major Thomas O. Summers of Memphis who has recently arrived there with a corps of twenty-five thoroughly experienced and immune physicians and nurses. This appointment is peculiarly apt as Major Summers is especially well qualified for his work by a practical experience of many years. He was chief of the medical staff at Memphis during the great yellow-fever epidemic of 1878.

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When the medical history of this war shall have been published it will make most interesting and instructive reading, not only for the physician, surgeon, and nurse, but for all who are interested in the running of the machinery that makes or breaks nations. It is practically a trial war in regard to many innovations. For instance, the hospital-ship, or more exactly, the ambulance-ship, has had its first practical trial, and although official reports of the general efficacy of the "Solace" are not yet published, we have it from reliable sources that its value

is beyond the most sanguine anticipations, and by its service many lives have been saved.

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Aseptic and antiseptic surgical methods have been given a fair trial and the success attending them as compared with the results during former wars is as surprising as it is gratifying. It was fully expected that in such a warm, sultry climate as that of Cuba the proportion of deaths to wounds would be enormous, but these expectations, happily, have not been realized. Much credit must be given to the deviser of the plan of having each soldier carry an individual "repair kit." We are assured that many flesh wounds, even though quite serious, when dressed immediately with antiseptic dressings from the wounded man's own emergency case, have healed as readily as a schoolboy's cut finger, without inflammation or suppuration.

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Official reports will no doubt recommend the use of small-bore rifles and high-velocity steel- or copper-encased bullets as the most effective and humane weapons of war. It is conceded that the object to be gained in battle is not the killing of the greatest number of men but their disablement to such an extent that they can fight no more, at least until time enough has elapsed for their wounds to heal. This is the effect of the Mauser and other rifles of this class. The man who is struck receives a clean-cut wound which, while it disables him for fighting, heals quickly and leaves him in a few weeks almost as sound as before. Even when a bone is struck it is not nearly so apt to splinter as was the case when the old Springfield rifles were used.

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The protest made by the *Virginia Medical Semi-Monthly* and other medical journals against the locating of camps on the banks of streams which supply cities or towns with drinking-water, is sound and reasonable and we sincerely trust it will be noted by the War Department. No community in this country would for one day allow a town of 1000 or more inhabitants to empty its sewage and filth into the upper waters of the stream which supplied said community with its drinking-water, and the cases are parallel in the present instance.

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The great number of wounded men as compared with those killed during the action at Santiago has shown the necessity for nurses, and as a result of this experience the War Department is taking steps to provide an extra large number of nurses and surgeons for the Porto Rico campaign.

The gunshot wounds of the one hundred soldiers transported on the "Olivette" from Santiago and admitted to the United States Marine Hospital, Stapleton, Staten Island, July 16, 1898, have been tabulated as follows:

Gunshot wounds, upper extremities	40
Gunshot wounds, lower extremities	29
Gunshot wounds, head and neck	10
Gunshot wounds, chest	5
Gunshot wounds, back	2
Gunshot wounds, penis	2
Gunshot wound, abdominal wall	1

Also the following named injuries:

Sprain of back	1
Contusion of chest	1
Concussion of brain and spinal cord	1

Also,

Effects of heat	4
Enteric fever	3
Inflammation of lymph-glands, groin	1

Among the surgical cases there are compound comminuted fractures:

Of radius	1
Of humerus	1

Compound fractures:

Superior maxillary	1
Radius and ulna	1
Humerus	1
Ulna	1

Also amputations:

Upper third forearm	1
Two fingers	1
One finger	1

Many of the soldiers have malaria and diarrhea.

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As we go to press authoritative information is received by wire regarding the condition of the Spanish sailors held as prisoners at Seavey's Island, Portsmouth, N. H. At present there are only about 250 in the naval hospital. Of these, twenty are suffering from gunshot wounds, and the remainder from bilious remittent fever, intermittent fever, bronchitis, and anemia. Some deaths have occurred, and others are naturally expected among patients who have undergone such hardships as these Spaniards have experienced.

A FEW THINGS TO LOOK OUT FOR IN MANILA.

BY JOSEPH EARLE STEVENS,
OF BOSTON.

To the traveler arrived in the Philippines I would say: "Look out for a Manila northwest wind, especially during the months from June to October," for it rarely comes stealthily stirring the trees without being the harbinger of a typhoon which is making up from the eastward. Not that there are not other things to beware of but that one's ship, one's house, or one's tent generally likes to have previous notice of the approach of squalls.

"Look out for fever in the lowlands surrounding the capital, and, as far as is possible, do not sleep within six or eight feet of the ground," for fevers, both malarial and typhoid, are at home all the year round in the Philippines as well as in other tropical countries, and though the yellow variety is not known, yet the others are insidious enough to bother the strongest. The natives, in order to divorce the floors of their houses from the ground, generally build these structures on posts, leaving a free space of some two yards between the earth and the thresholds of their front doors. The half-castes and foreigners who live in the more elaborate structures in the city or the suburbs desert the ground-floor altogether and use it as a stable for their carriages or a dining-room for hot weather, for there seems to be a dampness, a certain sort of miasma that hangs about the earth, which is the source of much evil, and a commanding officer should think twice before quartering his men in tents pitched on the lowlands of Manila or Cavité. After all the Nipa hut, with its roof of thatch, its frame of bamboo, and its floor of slats is the most rational form of domicile for the Philippines, and temporary barracks for our troops, built up in the fashion of native dwellings, would in any portion of the islands be better than tents pitched on the ground.

Fever is so common among a certain class of foreign residents in Manila that Tom, Dick, or Harry will come into the cool reading-room of the English club, drop down into a chair and say sardonically: "Got the fever again—means another lay off," and while the old-stagers dose themselves with quinin or antipyrin and hang around the office if possible, the newer arrivals buy thermometers, send for the doctor, take ice baths, and either go through a terrific siege, like my friend whose head shrunk so in six weeks that his hats wouldn't fit him during convalescence, or escape with a few days' pull down. In my day it didn't at all pay to lose one's health, either, for there was only one Anglo-Saxon "medico" in Manila, and he had been in the tropics so long that the climate made him forgetful. He would perhaps go into the sick room of a fever-stricken patient whom he had been attending and remark, "Oh, by the way, let's see, what is the trouble with you?" a question which was not always comforting to a sufferer who felt he was on his last legs. But the old residents all knew that when any one's case was really bad there was no cause for complaint and felt easier in being the recipients of such questions as the above than when the sturdy doctor gave them more serious attention.

Colds and dysentery, like fever, are common troubles and it indeed seems curious that the former should be so popular in a hot climate. But such is the case, and the grippe appears to have reached Manila as well as more accessible corners of the world.

It is a great mistake to sleep in silk pajamas in the tropics and new arrivals seem to suffer from colds, more often caught by exposure during the cool hours of the night than at any other time. Flannel sleeping suits are far more sensible than silk or cotton ones and are especially to be recommended, since they absorb the moisture which invariably exudes from the pores of the skin on a warm night and thus protect one from catching cold while he is asleep. Flannel cholera-belts are also most excellent and protect the bowels from drafts of air that often strike home during the dampness of the night or the cold hours before sunrise.

During my whole two years in the Philippines I never suffered from fever or bowel troubles and only twice from bad colds, probably because I took pains to protect myself at night as well as because I was not subject to them.

Smallpox is common in the Philippines and no one thinks anything about it. Nearly all the natives seem to bear marks of the disease and they don't see why they should be vaccinated when they haven't any especial objection to the parent affliction. But any one going to Manila will do well to be vaccinated, since everywhere in the islands he will bump into people suffering from smallpox. There was much of it in the local shipping during the years of my residence in Manila, and the captains of deep-water merchantmen were fearful for their crews. Our office used often to be the scene of a vaccinating-bee, and my partner and I got so proficient that besides doing a hemp business we could take the ink-eraser and some fresh lymph from Japan and inoculate a jolly tar as well as the doctor himself.

Since Manila has been blessed with a good water-supply and big pipes tap the river far up toward the mountains cholera has never made the terrible annual visits it used to in the days when the inhabitants of the capital were wont to use the water right from the dirty river that ran through the center of the town, and when people died faster than they could be buried.

Sprue, that peculiar tropical disease which seems to attack the lining of one's interior and to render it so sensitive that food cannot be retained by one suffering from the malady, is not uncommon in Manila, and is apt to attack certain foreigners whose stomachs are peculiarly susceptible to change of fare. And let him who finds he has sprue get out of the country just as quick as he can, for nothing but a change of climate will effect a cure, and if the trouble is not attended to at the outset the victim will frequently get so weak that he will be unable to get

away at all. In fact, I went out to the Philippines to take the place of a man suffering from sprue and, neglecting to leave in the earlier stages of the trouble, he finally got so weak that he had to be carried aboard the steamer and only fully recovered after a six-months' stay at home. Some may have sprue, leave the islands for Japan or the Pacific coast, and recover from it to come back to Manila, but others are not able to shake it off even by returning home. This irritation of the alimentary canal is an insidious enemy and milk is practically all that a sufferer from sprue can retain within him. Beware of sprue, then, pilgrims to the Philippines, and once you feel those unmistakable symptoms take the first steamer for home.

Sunstroke is apparently uncommon in Manila for one soon gets to respect the sun after a day or two of his attentions. The vital point to protect during one's stay in the direct sunlight is the back of the neck, and a new arrival should be careful about wearing hats that do not shelter this tender region. Practically all of the policemen in Manila as well as the native and Spanish troops wore helmets with extensions behind which fell low over their necks and a sun-hat in the East which is not built with this so-called back verandah has not the protective power it should have. One marvels at seeing many of the natives with their long, thick, straight, black hair, or the Chinese coolies working for hours, hatless, in the vertical sun, but he will do well to marvel rather than to imitate. For letting alone the question of sunstroke it is an admitted fact that over-exposure to the sun is the direct cause of much of the Manila fever.

As the wet season seems, peculiarly enough, to be the healthiest time of the year, so the hot, dry spring months, coming in the lull between the monsoons, are the most unhealthy. Smallpox is particularly active from January to April, and the universal plowing of the soggy rice-fields that comes before the beginning of the rainy season seems to let loose an extra army of fever-germs from the damp soil. In fact some years ago an attempt was made to dig out the old moats surrounding the walled city, filled in with the rubbish of many decades, but so many of the surrounding inhabitants were stricken with malaria or with typhoid that the attempt was abandoned.

In conclusion, the new arrival in the Philippines should guard against fever by sleeping high off the ground, by avoiding an overdose of the sun, and by fighting shy of freshly plowed fields. He should look out for colds and dysentery by sleeping in flannel suits, by wearing a cholera-belt, and by abstaining from too much fruit. He should forestall the attentions of smallpox by being vaccinated before he buys his ticket for the Far East, and above all, at the first suspicion of sprue, he should make tracks for home or the north.

THE WORK THAT IS BEING DONE AT THE UNITED STATES GENERAL HOSPITAL, FORTRESS MONROE, VA.

[Special Correspondence of the MEDICAL NEWS.]

FORTRESS MONROE, VA., July 25, 1898.

IN obedience to orders from headquarters I reported for duty on the morning of July 15th to Major Calvin De Witt, Surgeon United States Army, in charge of the United States General Hospital at Fortress Monroe, Va. Thirty-six years had come and gone since, as an acting assistant-surgeon, I had reported to Assistant-Surgeon C. T. Alexander, United States Army, in charge of the Lawson General Hospital at St. Louis, Mo. Major De Witt received me with as much kindness and cordiality as if he had been an eye-witness of my original entrance as a green boy into the medical service of the United States a full generation ago. At his earliest convenience he showed me his hospital, the various buildings, tents, cooking arrangements, bath-rooms, in a word, everything required for the care and comfort of the sick and hurt soldiers. When upon enquiry, I was told that the entire hospital had been erected in seven days I was simply amazed, and very naturally asked Major De Witt how on earth it had been done. He promptly replied, "Well, we *had to!* And we worked part of the time by electric light."

The patients seem to be doing well as a rule. There are 441 here now. The wounds are for the most part limited to the lower extremities and are from Mauser bullets. Very few seem to be dangerous. Thanks to modern methods, septic wounds and suppuration are conspicuous by their absence. A few cases of mild malarial fever are progressing toward complete recovery. The Mauser bullet-wounds, so far as noted here, seem to be less destructive to the tissues than those produced by the old Springfield rifle-bullet. In the humble opinion of the writer, the medical officers of the hospital originally on the ground have earned for themselves very great honor. For example, on July 13th four acting assistant-surgeons, Drs. Pinkham, Street, Anderson, and McKay, were detailed to superintend the disembarkation of the sick and wounded soldiers, and provide for their care and comfort in the "incipient" hospital. Beginning at 2 P.M., by six o'clock 246 men were all safely and comfortably transferred to their nice, clean quarters, given a bath, furnished with new pajamas, and fed,

in addition to which the history of each had been carefully recorded. On the previous day the four young surgeons had spent their time in preparing dressings, overhauling instruments, and getting things in proper order for hospital service. No nurses had reported for duty, but every patient was seen by one or another of the young men above-named every two hours during the first two days and nights in the hospital. This is a fair sample of the businesslike way things are managed under the master hand of the surgeon in charge.

My attention was called this morning to a case of chorea, the result of shock received in battle without actual wound. The patient lives at 271 Avenue B, New York, and I hope the MEDICAL NEWS will be careful to find out and report his future progress. His name is George W. Bang.[1]

A case of very great interest is that of a private in the regular army. A Mauser bullet entered his neck two inches to the right of the middle line just below the jaw and passing toward the left emerged through the left scapula about one inch from its posterior margin. The wound is perfectly healed, but there is an aneurism which fills the triangles of the neck, and there is motor paralysis of the left arm and complete absence of pulsation in the left radial artery. The patient is a handsome and attractive young fellow, twenty-three years of age, and there is a deep desire on the part of every surgeon here to rescue him if possible from his perilous condition. The result of our efforts will be communicated without delay to the MEDICAL NEWS.

DONALD MACLEAN, M.D.,
Major and Chief Surgeon of Division, United States Volunteers.

THE WOUNDED SOLDIERS AT BELLEVUE HOSPITAL.

ALTHOUGH the number of wounded (twenty-five) now at Bellevue Hospital is too small to allow one to draw final conclusions relative to the surgical results of the battles fought before Santiago, a brief analytical study of the convalescence of these soldiers and the conditions influencing the same may not be without interest. It should be remembered that all were wounded on the first day of the present month, during the first two weeks of which they were treated in the ill-contrived hospitals in or near Siboney. On the 14th instant they were loaded upon transport No. 5 ("Seneca"), which occupied almost one week in reaching New York. The unsanitary condition of the vessel and the neglect to which the men were subjected is at present the subject of official investigation. After four days in the wards of Bellevue we find many of the men daily expecting to be pronounced well enough to take advantage of well-earned furloughs.

The nature of the wounds received can at present be determined only by the patients' accounts and an examination of the existing conditions. The surgeon is able with approximate accuracy to classify them as (*a*) 2 wounds of the skull, (*b*) 3 and perhaps 4 wounds implicating the lung, (*c*) 4 wounds involving the bones or joints, and (*d*) 15 flesh wounds or those in which the involvement of bony or other important structures is insignificant.

The experiment of providing each soldier with an emergency outfit was suggested by Dr. N. Senn, and the results attending its use in the first extensive engagement are accordingly interesting. Of the 21 who had immediate recourse to the outfit, 16 escaped infection altogether, and 5 had more or less suppuration. Among the latter one had a wound of the skull above the eye, from which the bullet was subsequently removed with considerable operative difficulty. But of the 4 who delayed or omitted the use of this dressing, 2 were infected and 2 escaped. When the exposure of these men in the hot and wet trenches, involving a liability to infection almost unsurpassed, is considered, the above statistics cannot be regarded otherwise than a signal victory for aseptic methods. Inquiry as to the first aid supplied by the surgeon shows that 4 men were dressed upon the field without delay, 2 were taken immediately to the first-dressing stations, and there received attention, while 5 others were dressed at the same stations, but not until a variable time (2 to 31 hours) had elapsed, 11 had their first surgical attention at the Division Hospital in from 2 hours to several days, and 3 were not dressed until they reached the general or Red-Cross hospitals.

Subsequent dressings have been applied as the character and condition of the wounds demanded. Some have required daily attention, while others have healed under two dressings.

The present condition of the wounds, taken on the whole, is eminently satisfactory. Fifteen are closed or virtually so, three are clean but not completely filled in, leaving seven which are suppurating. Of the latter, two present a minimum amount of pus, and none is serious save one. This man re-

[1] Inquiry at the address given above elicited the further information that young Bang had been overcome by heat before he went under fire. His own account of the accident is that a shell exploded near him and a fragment passed very close to his right side. Consciousness was immediately lost, and did not return for several days, when he found himself in the general hospital afflicted with violent choreic convulsions. Excepting a slight ecchymotic spot in the dorsal region, no evidences of trauma were found upon him. Since his arrival at home his general chorea has somewhat subsided, but the spasmodic contractions which draw the head violently toward the right shoulder persist, and are apparent even during sleep. He suffers constantly from pain in the upper cervical region, and is excessively nervous and sensitive to unusual noises.

ceived a bullet at the junction of the right seventh rib with its cartilage. It passed through the lung backward and to the right, making its exit three-quarters of an inch behind the middle axillary line and half an inch below the level of the nipples. Prompt use was made of the emergency outfit, and attention was received almost immediately at the first-dressing station. Daily dressings were applied while in the general hospital and thereafter. Pus is now found in the pleural cavity and an abscess of the liver has developed. The patient's temperature is ranging high (104° F.), and his condition is not satisfactory.

OUR PHILIPPINE LETTER.

[From Our Special Correspondent.]

THE MANNER IN WHICH PHILIPPINOS POISON ARROWS—"MALI-MALI"—A REMEDY FOR SNAKE-BITE WHICH WILL NOT APPEAL TO THE FASTIDIOUS.

WITH ADMIRAL DEWEY'S SQUADRON, OFF MANILA, PHILIPPINE ISLANDS, June 17, 1898.

A DISMAL rain has settled down upon the city and the bay, but not even the depressing weather has been able to dampen the spirits of our boys to-day, for the "Baltimore" put out to sea this morning to meet the American transports which are now due from San Francisco. It is hoped that they will arrive before evening, and the marines in the Cavité arsenal and on board the ships in the harbor are full of joyous anticipation and are whiling away the hours by singing "There'll Be a Hot Time in the Old Town To-night."

There was considerable excitement last Wednesday when it was whispered about that Admiral Dewey was going to send a steam-launch commanded by his staff secretary, Ensign Caldwell, past the batteries and up the Pasig River to try to blow up two torpedo-boats known to be hiding there. The "Callao" was to tow the launch to the mouth of the river and there await its return. It would have been an expedition fraught with great danger to every one engaged in it, but Lieutenant Toppen, who was to command the "Callao," and Ensign Caldwell were both fearless and enthusiastic. In perfecting this plan the darkness and the rain were counted on to assist the launch in getting past the batteries and into the river; but the preliminary and possibly unnecessary, reconnoissance of the "Callao" on Wednesday was rightly interpreted by the Spaniards, who in their terror sunk an old transport steamer, the "Cebu," across the mouth of the river, quite regardless of the fact that while they closed the Pasig against the entrance of the launch, they at the same time made prisoners of their own torpedo-boats and rendered it impossible to carry out their plan of making a torpedo attack on the fleet. This they had prepared to do on Tuesday, when they would have been favored by the gale that was blowing, but our ever watchful Admiral sent the "Concord" and the "Callao" to balk their little game.

The local newspapers continue their vituperation of the Americans, and one paper solemnly declares that the recent Spanish victories have completely demoralized us and that President McKinley and his Cabinet are in a state of panic. What these "Spanish victories" were the paper in question does not say, but when the Americans at Cavité, who are many leagues from a truthful newspaper, hear of another "victory" for the Spanish, their hearts leap in their bosoms at the thought that possibly another Spanish fleet has been blown up somewhere. Even the Spanish soldiers are becoming a little doubtful of these stories of disaster to our navy, as I learned yesterday from a fellow correspondent who, in his assumed character of a German sympathizer, manages to keep in touch with the Spanish officers in Manila.

The insurgents have now advanced to a point within sight of the outposts of Manila. Some of these men are decidedly unprepossessing in appearance, and if those people in America who are clamoring loudly for the annexation of the Philippine Islands could spend a short time in the company of these proposed allies and prospective American citizens, they might wonder whether after all the game were worth the candle. To govern these semi-barbarians will not be an easy task, for our weapons will not be those which Spain has used so effectively, her power here having been based principally on her ability to work upon the fear and superstition of the native population through her agents, the priests. The American government has no such agents, and will, therefore, have to depend on other means. In determining this question of government there will have to be taken into consideration the fact that most of the Philippine Islanders are savages who fight with lances and poisoned arrows. I once had the privilege of witnessing the preparation of a number of these poisoned weapons, and as nearly as I can remember the process was about as follows: The poison was made from the bark of two different trees, the names of which I have forgotten. One of the pieces of bark was beaten almost to a jelly, pressed and dried, then moistened and again pressed. Though the man used his bare hands in doing this, he apparently was not injured in any way by contact with the poison. The juice of the bark thus extracted looked very much like pea-soup as it simmered in an earthern vessel over a slow fire. When it had reached the consistency of syrup, a quantity of pulp from the second piece of bark was scraped off and the juice of this squeezed into the syrup over the fire. The juice of the second piece of bark was dark-brown in color and the liquid in the vessel was darkened and changed as soon as the new ingredient was stirred into it. The mixture was then allowed to simmer for some time, until it had attained the consistency of jelly, when it was scraped out of the vessel with a chip and put on a large leaf which had been plentifully sprinkled with ashes. This preparation can be kept a long time without losing any of its strength. To poison an arrow-head a piece of this jelly-like substance about the size of a hickory-nut is warmed and rubbed all over the point, which can be used repeatedly without the poison losing its virtue. The natives also have daggers with sharp-pointed blades about four inches wide and a foot long, which they call *bararaos*. They are very dexterous in the use of this weapon, and

if they can lay hold of an adversary by the hair, they cut off his head with one sweep of the arm and carry it home as a trophy of war.

Among the natives there is occasionally found a peculiar nervous disease called *mali-mali*, the victims of which seem to be impelled by an uncontrollable impulse to imitate the movements of any one they see before them. Sometimes the disease will lie dormant while the victim goes quietly about his work, but if frightened or excited in any way he will immediately begin to imitate every motion of any person who attracts his attention. If a person suffering from this disease becomes angry he shrieks and raves like a maniac, at the same time continuing his mimicking performances. Old women are the most common victims of *mali-mali*, though men are sometimes attacked. Some people believe that the imitation-mania, as it is sometimes called, is always assumed and that the pretended victims can control their antics if they try, as they are often attacked in the presence of Europeans from whom they hope to obtain alms; but there is no doubt that the symptoms of this disease are generally real, and that such a disease exists is certain.

The natives have a strange cure for the bites of snakes and mad-dogs. The first excrement of a new-born infant is carefully preserved and is believed to be highly efficacious as a remedy for snake-bite, but it must be used both externally and internally and immediately after receiving the bite. I have been informed by a physician who has spent many years in the Philippines that fully a quarter of the children of natives die within two weeks after their birth. He expressed the view that this great mortality is probably caused by the impure air which is always found in the lying-in chambers of the native women. No matter how hot the weather, the doors and windows are hermetically sealed, in order to keep out the evil spirit called the *patianac* which, as I explained in a former letter, is supposed to make all sorts of trouble if it can get access to a woman in labor. But the great mortality among infants has probably a deeper cause than this; it doubtless lies in the constitution of the natives, who do not seem to be of hardy fiber, for if forced to suffer from hunger and thirst they soon sicken and die, and fully half of them have some kind of bronchial trouble.

The old Buddhist belief that the soul leaves the body during sleep is shared by the Philippine Islanders, who are very careful in waking a sleeper to do so gradually and by slow degrees, so that the soul may not be called back too suddenly and rudely into the body which it has for a time deserted. No greater insult can be offered a native than to wake him suddenly or to walk over him as he lies asleep. They dread nothing more than to die during sleep, and their worst curse is "May you die sleeping."

The sense of smell is abnormally developed in the Philippinos, and they can tell to whom any article of clothing belongs by simply smelling of it. The manner of kissing practised among some of them is peculiar. Instead of pressing the lips together, they press the mouth and the nose against the cheek of the person caressed and draw a long, deep breath. In asking for a kiss they do not say "kiss me," but "smell me."

The natives fear many things, both natural and supernatural, and in the Island Sámar the huge bats are regarded by them with feelings of awe that are almost reverential. The caves in the mountains are nearly all inhabited by these creatures, and the natives stand especially in fear of what they call "Calapnitan," or the "Lord of the Bats." It is great sport to go bat-shooting, and the great, uncanny creatures are game to the end, hissing and snapping at any person who wounds them. In the daytime they may be seen hanging asleep from the branches of trees, but as soon as night comes on they spread their wings and fly about like great vampires, filling nervous people with horror. Bats suckle their young like mice, and I remember that on one occasion I shot a mother bat who was engaged in feeding her family. The little creatures did not interrupt their dinner but continued to stick to the dead mother until their hunger was satisfied or the milk exhausted.

Food is growing more scarce in Manila every day. Horse meat sells for $2 a pound, and other meat is now a luxury only within the means of the rich. The insurgents took the blockhouse at Meypajo yesterday, and they have succeeded in effectively penning up the Spaniards in the old walled city of Manila, where they are huddled like sheep, all the Spanish families and hospital patients having been brought inside the walls. It is rumored that torpedoes have been placed by the Spanish in the roads leading into the city, but experience has taught the Americans not to fear the Spanish torpedo. If no more serious obstacle than that blocks our way, the taking of Manila will be easy; but there is Admiral Von Diederichs out in the harbor with his fleet of German warships, waiting, like a vulture for its prey, for an opportunity to snatch his "share" of the prize which Dewey won for America.

CLINICAL MEMORANDUM.

SUPPLEMENTARY ANTITOXIN REPORT.

By I. H. LOPEZ, M. D.,
OF PHILADELPHIA.

ABOUT a year ago it was my privilege to read a paper before the Associated Physicians and Surgeons of the Charity Hospital on "The Treatment of Diphtheria with Antitoxin."[1] My report embraced thirty-seven cases and twice that number of children immunized. The purpose of this paper is to supplement my early report with experience I have since had with the remedy in two institutions with which I am associated.

A child was admitted into one of the Homes, October 23, 1897. On November 21st the mother visited the institution bringing with her a jacket which the child subsequently wore. A week later he was taken down with diphtheria. Thirty-five other cases promptly followed, of which thirteen were sent to the Municipal Hospital and twenty-three treated in the institution. Of the first, six died; and of the latter, one. All had received antitoxin treatment, but some of those removed to the hospital de-

[1] MEDICAL NEWS, February 6, 1897.

veloped grave complications, measles, scarlet fever, etc., which broke out in the hospital wards and were the cause of death, as certified in the death certificates. Those sent away for treatment were the first cases that appeared. The outbreak was subsequently traced to the home from which the mother had brought the apparently innocent little jacket. No other cases appeared in this institution until January 18, 1898, when diphtheria developed in a new arrival, one week after admittance. Several other cases immediately followed, so that a widespread epidemic was imminent, In this outbreak none of the children was removed, but all that had been in any way exposed, 110 in number, were promptly immunized. The doses administered ranged from 250 to 500 units according to the age of the child. Four or five of these children had sore throats with small patches on the following day. Each of these and all that had already developed the disease received 1000 units each. The result was a prompt recovery in every instance and no new cases have appeared in the institution since.

About the same time forty-one cases of diphtheria appeared in rapid succession in another institution. All were more or less complicated with measles and scarlet fever. The four initial cases did not receive the serum treatment and all died. The remaining thirty-seven cases received antitoxin treatment and but two died. It is worthy of note that, deducting the fatal cases, without a single exception, the 174 antitoxin-treated cases developed no sequelæ, either those receiving curative or immunizing doses. Thus far the claims made for diphtheria antitoxin, that it is an efficient non-toxic, non-depressant antidote for the poison of diphtheria, have in my experience been fully realized. When given early and in adequate doses, it will promptly check the disease, after which we have only to contend with the damage done before the poison was neutralized. This damage always varies according to the virulence of the absorbed toxins and the length of time they have been permitted to remain unchecked. During the recent prevalence of diphtheria in our city I was enabled to test more fully the merits of antitoxin, and used it fearlessly in every case, old or young, without the least unfavorable symptoms, but with recovery in every instance. On the other hand, I could cite six cases to which I was called only at the last hour and in which the remedy had not been used. In two of these the attending physician had been having cultures made for four or five days without being able to recognize the disease. In three the physicians had had no experience with antitoxin, and feared unfavorable results. In one instance the mother had treated the child for croup with goose grease and molasses. The result in the six cases was strictly uniform—"they sleep with their fathers."

MEDICAL PROGRESS.

Mortality after Amputations.—SCUDDER has recently published some figures (*Boston Med. and Surg. Jour.*, June 30, 1898) showing the mortality after amputations during the pre-antiseptic days, in the transition period, and at the present time. They will be read to-day with interest, even though there is far less of amputating in the military operating-tent than there once was. The columns of figures which, unfortunately, are not mutually exclusive, are as follows:

TABLE COMPARING MORTALITY PERCENTAGES OF MAJOR AMPUTATIONS DONE AT THE MASSACHUSETTS GENERAL HOSPITAL.

	1821–1870	1870–1890	1885–1896
1. Amputation at the Shoulder-joint.			
Traumatic, primary	53.33	50.00	31.57
Pathological	27.27	00.00	00.00
2. Amputation of the Arm.			
Traumatic, primary	19.44	12.19	22.22
Traumatic, secondary	.....	.....	18.18
Pathological	12.50	16.12	11.11
3. Amputation of the Forearm.			
Traumatic, primary	24.13	22.99	6.00
Traumatic, secondary	.....	.....	0.00
Pathological	14.81	14.00	8.57
4. Amputation of the Thigh.			
Traumatic, primary	42.37	47.54	35.21
Traumatic, secondary	60.00	28.50	37.00
Pathological	20.98	23.28	17.55
5. Amputation at the Knee-joint.			
Traumatic, primary	60.00	60.00	50.00
Pathological	36.36	50.00	00.00
6. Amputation of the Leg.			
Traumatic, primary	34.37	27.73	13.66
Traumatic, secondary	36.41	21.43	7.14
Pathological	12.60	13.78	13.55

At the first glance one is rather surprised that there is not a greater difference between the former days and the present, but upon second thought attention is directed to the fact that antisepsis and perfected technic can never avert death from concurrent causes, as so often happens in the pathologic as well as in the traumatic cases of amputation. Then, too, the very fact that amputation is now looked upon as a last resort makes of it an operation for the worst cases only, and the mortality is proportionately heightened. Incidentally these figures are an eloquent testimonial to the work done in that famous old stone building in Boston that knew so well a Bigelow and a Warren long before carbolic acid and bichlorid of mercury came to mark the line between past and present.

The Operative Treatment of Brain Hernia.—MOELLER (*Deut. Zeit. f. Chir.*, vol. 48, p. 23) thinks that the common opinion that a hernia of the brain will probably end in death either with or without surgical treatment ought to be so far modified as to exclude those cases in which there exists a distinct pedicle which has become obliterated during intra-uterine life. Upon such a subject one may operate with a good chance of success, as is shown by a case successfully so treated by him. What the chances in general are is shown by the record of Von Bergmann's clinic in Berlin, where of 23 patients, 3 recovered from operation, 5 died from operative attempts, and 12 died without any surgical measures having been taken. It follows naturally that the prognosis in meningocele is better than that in case of encephalocele, which in turn is better than that in hydrencephalocele.

Tuberculosis of the Penis.—GASTON (*Centralbl. f. Chir.*, May 23, 1898) describes a case of tuberculous ulcer of the penis which had all the appearances of a hard chancre. The history showed, however, that there had been none of the usual manifestations of syphilis, and that the

trouble had existed for seven years; and further, that the patient suffered from tubercular lesions in other parts of the body. Microscopic examination of a section of the growth left no doubt as to its nature, although no tubercle bacilli were made out. The penis was excised and the stump healed well. Lupus subsequently developed in one of the patient's hands.

Strongest Antitoxin for Rabies Yet Discovered.—FRANTZIUS (*Centralbl f. Bacter.*, etc., May 13, 1898) finds that the bile of an animal suffering from rabies differs from the other fluids of the body in that it does not contain poison. Further tests with such bile showed it to contain an antitoxin against rabies more powerful than any form of antitoxin yet described for this disease. This is not a property of all bile, as investigation showed that the normal bile of cattle, sheep, swine, etc., possesses no antitoxic value. This antitoxin in the bile of animals suffering from rabies is therefore developed during the disease, and manifestly for the purpose of protecting the affected animal against the disease.

THERAPEUTIC NOTES.

Ichthyol in Pulmonary Tuberculosis.—COMBEMALE and DESOIL (*Echo Med. du Nord*, April 17, 1898) report that during fourteen months all the phthisical patients in the Charité Hospital at Lille were treated with ichthyol. Observations were made upon 110 patients who were treated with this drug to the exclusion of all other medication for periods varying from one to six months. Pills and capsules of ichthyol were found to be the least objectionable preparations. The daily dose at the beginning of treatment was 1 gram, but this was gradually increased to 4 grams unless diarrhea intervened, which was too strong to be controlled by moderate doses of dermatol. This happened in very few instances. If these doses of ichthyol were quickly tolerated there was a prompt improvement in the general health of the patient, as manifested by the disappearance of night-sweats, a gain in weight and strength, a reappearance of the menses, etc. This desirable improvement rarely manifested itself before the end of a month, and it did not occur at all in two-thirds of the patients. Expectoration was almost invariably lessened in amount and made more fluid, so that coughing was easier.

On the Washing of Eczematous Hands. — UNNA (*Monatshefte für prakt. Dermat.*, June 1, 1898) says that it is quite possible to cure eczema of the hands without compelling the patients to give up their occupation, even though they may be engaged in such work as cooking, baking, bricklaying, or other occupations in which the hands are constantly filled with dust. It is not the washing of the hands which increases the eczema; on the contrary, the careful cleansing of the skin is favorable to the cure of that trouble if the skin is not thereafter exposed to the air or to some other irritant. Hence he makes it the rule that a thorough washing of the hands in such patients shall take place in the evening, and that the skin shall be rubbed with some oleaginous substance and protected from drying by an impervious covering of wash-linen or rubber. In the morning the hands are simply wiped clean but not washed. Before meals the hands are oiled and wiped, or if they are so dirty that washing is unavoidable, they should first be oiled, then washed with soap, and immediately wiped and thoroughly oiled again. In brief, the treatment is included in the two precepts: No washing without a subsequent oily bandage; and the substitution of a thorough evening cleaning of the hands for the usual morning washing.

A Case of Traumatic Tetanus Cured by Intracerebral Injections of Antitoxin. — CHAUFFARD and QUENU (*La Presse Med.*, June 18, 1898) report a case of traumatic tetanus in a lad, aged sixteen, which they treated successfully with injections into the brain of antitoxic serum. Two fingers were crushed by accident. Four days later there was edema and redness, but without pain or fever. Fourteen days after the injury the swelling had not subsided in spite of constant wet dressings, and stiffness of the lower jaw was noticed for the first time. Two days after that as the condition of the patient was growing rapidly worse, a small hole was made with a trephine in the bared skull, 3.5 inches above the right external orbital process, and about thirty minims of concentrated antitoxic serum was injected to a depth of two inches into the brain. This procedure was repeated on the left side. Both wounds were sutured. There was no bleeding or unpleasant symptoms, and the condition of the patient improved. Upon each of the four succeeding days there was made a subcutaneous injection of about 5 drams (20 c.c.) of antitoxic serum and a pint of artificial serum. The patient recovered entirely. During the convalescence there were the common unpleasant effects of the use of large injections of serum, such as pruritus, pains in the joints and muscles, etc.

Serum to Prevent Death from Burns. — TOMMASOLI (*Centralbl f. innere Med.*, June 25, 1898) recommends the injection of artificial serum to prevent death from extensive burns. The patient upon whom this method was first tried died from the effects of his burns, but the second one was saved, after having received injections of from eight to sixteen ounces of the serum daily for a number of days. By experiments upon animals the writer was also able to demonstrate the power of the serum to save life after burns. Two out of six rabbits whose hind quarters were severely burned recovered, while four control animals died. Eight out of ten dogs similarly burned recovered, while the control animals all died. In the light of this rather imperfect experience the writer does not hesitate to recommend the method for further trial.

For Sciatica.—

℞ Pulv. opii, Pulv. ipecac. } aa . . . . gr. xv
Sod. salicyl. . . . . ʒ iss
Ext. cascara sagrad. . . . . gr. xxx.

M. Ft. pil. No. XX. Sig. One to three pills a day.—*Richardson.*

THE MEDICAL NEWS.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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Address the Editor: J. RIDDLE GOFFE, M.D.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK.

Subscription Price, including postage in U. S. and Canada.

PER ANNUM IN ADVANCE	$4.00
SINGLE COPIES	.10
WITH THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, PER ANNUM	7.50

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LEA BROTHERS & CO.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK,
AND NOS. 706, 708 & 710 SANSOM ST., PHILADELPHIA.

SATURDAY, JULY 30, 1898.

DIPHTHERIA ANTITOXIN PATENTED.

WE believe that the information that Behring has not only applied for but received a United States patent for the production of diphtheria antitoxin will come not only as a surprise but also as a disagreeable shock to the readers of the MEDICAL NEWS. On January 11, 1895, a patent was applied for in the following terms: "Be it known that I, Emil Behring, a citizen of the Empire of Germany, have invented certain new and useful improvements in the manufacture of diphtheria antitoxin of which the following is a specification: My invention consists in the production of a substance called 'diphtheria antitoxin' by means of which people may be immunized against diphtheria and people suffering from diphtheria may be cured, etc." This patent after having been several times refused was finally granted June 21, 1898. We learn that more patents have been applied for by Behring and other prominent bacteriologists of Germany for bacteriologic products in which they have made some improvements. Behring's application for a patent is apparently only the beginning of a general attempt by some German investigators to reap direct money reward for any discoveries which they may make or for which they may be able to convince the Patent Office of the correctness of their claims. This new attitude among some who have previously done merely scientific work may turn out to be a matter of great importance. Lest we judge Behring unfairly let us consider what portion of credit belongs to him and what to others for the discovery of diphtheria antitoxin and its application to disease.

Klebs was the first to describe the bacilli in the tissues of those sick with diphtheria, Loeffler to demonstrate their etiologic relation to diphtheria and that repeated injections of them produced immunity. Roux showed they developed in bouillon a substance called "toxin" which caused after injection all the constitutional symptoms produced by the absorbed poisons from the diphtheria bacilli in the pseudo-membranes. C. Fraenkel equally with Behring, repeated Loeffler's experiments and showed that injections of toxins as well as of living bacilli would produce immunity. Meanwhile many following the directions of Pasteur produced in animals immunity to many diseases by cultures or toxins, and Richet and others discovered that the serum from some of these immune animals when injected into other animals conferred immunity. Behring and Kitasato working together were the first to prove that the serum of animals immunized to tetanus contained immunizing substances, and at the same time Behring, Wernicke, and Aronson found the same to be true of animals immunized to diphtheria, and suggested that the serum might be found to be useful in diphtheria in man. A trial of a serum weak in antitoxin on a few subjects seemed to have some beneficial effects. Behring and Aronson in Germany, and Roux in France, now produced antitoxin on a larger scale. To Roux's experiments we owe the first convincing proofs of the serum's benefit. After Roux's reports, and the general use and manufacture of antitoxin, Behring applied in Germany and elsewhere for a patent for its production.

Behring's patent therefore covers much thought out by others, such as the injecting into animals of the diphtheria bacillus (Loeffler's discovery) or of its toxins (Roux's discovery) into horses (Roux's suggestion). Not even Behring would deny that without the use of the diphtheria bacillus no antitoxin could be produced, and that without the use of toxins no high-grade antitoxin could be obtained. From the

above we see that although the first discovery, or at least the first publication of the fact that in the blood of immunized animals there is a substance which neutralizes the diphtheria poison, is and probably should be credited to Behring, yet it is equally true that if Loeffler and Roux had not published their discoveries Behring would in all probability not have made his, and if they had patented them Behring would have been absolutely prevented from making use of his discovery. It is also certain that if Behring had not hit upon this discovery when he did others would have done so, as the principles had been established for some diseases already, and all were being experimented with to determine in which the curative substances would be in sufficient amount for therapeutic purposes.

Behring has strained the intent of the patent law in obtaining an instrument for appropriating to his own advantage the disinterested investigations of scientists who supplied the data and even the suggestion he adopted. They gave their results freely to mankind without a thought that the benefits directly derivable would be restricted for the profit of an individual instead of being freely distributed for the relief of sufferers from a deadly disease. Science herself suffers from an abandonment of the liberal principles which are the glory of her votaries. The whole patent system is by no means secure in public favor, and in proportion as antitoxin proves to be a public necessity, and Behring's gain increases, just so far will he furnish the most powerful argument yet presented for the abolishment of the entire patent law.

If men who have previously been working for purely scientific purposes desire to work instead for money rewards, no one can object so long as they frankly state their purpose at the beginning. To seek applause first for disinterested work and then to grab for a monetary recompense is not creditable. If this change of purpose ever becomes general it will be, we believe, a great misfortune to science and the race. It will subject all scientific workers indiscriminately to the suspicion of being open to the criticism of being possibly biased by personal advantage. Those who are still guided by different and higher aims, will be included in this distrust, and, indeed, be driven to patent all discoveries of new facts, so that those eager for gain may not seize, and, after giving them a practical application, patent and control them. We are hopeful, however, that the best men will still be satisfied with the old rewards of interest in their pursuits, the fellowship of kindred workers, and by the honor and position which come from successful effort. Money brings much that is very desirable, but there are some things too valuable to sacrifice to it. We trust for the good of the sick that this patent will be tested and overthrown in the courts.

PUBLICATION OF SCHENK'S THEORY OF SEX.

THE fulfilment of the widely advertised promise of Professor Schenk to give to the medical world the full details of his theory in regard to sex has been received in almost absolute silence. The original monograph in German and the authorized English translation have scarcely been noticed by the medical press, or even by the daily papers, which devoted pages to the Court Physician some months ago. The celebrated author lends the weight of his testimony, such weight as it has, at least, to the theory of sexualization known as cross heredity. He says the determination of sex is a question of metabolism on the part of the mother; if she is poorly nourished her ova will be so badly developed that they cannot attain to the splendid possibility of becoming male embryos, but are only fitted to grow into females. If, on the other hand, the mother is in a condition of perfect metabolism, it is possible for an ovum to evolve cells capable of forming the parts of a male child.

Schenk believes that he can determine the state of the metabolism of a woman by the examination of her urine. If he finds that there is even a minute quantity of sugar in the urine it is evidence that the metabolism is not perfect, and there consequently is fear that a female child may result if she becomes pregnant. The practical application of the theory consists in so altering the diet of the mother that her metabolism shall be perfect. It is needless to say that the dieting must begin some weeks before fecundation, and must be continued some weeks thereafter, until the sex of the embryo has become well established. In the words of the author, "The treatment consists in giving the mother a highly nitrogenous diet, with fat, and adding only so much carbohydrate as is absolutely necessary to prevent its want being felt."

Schenk says that at present the "wish to have fe-

male children is a desire, for the gratification of which it is not at present possible to give any directions." But, indeed, it is a poor rule which will not work both ways. Why not cut down the albumens and fats and give starches and sugar when daughters are longed for? But what woman will want daughters if they are to be taken as proof of her own decay?

Confirmation of this simple theory may now be looked for on all sides. It is so simple that every materfamilias-elect may put it to the test—eggs instead of oatmeal, butter without bread, and no candy for four months, and the thing is done! Who knows but that another year may see Schenk lunch-rooms in all the department-stores!

THE PERNICIOUS MALARIAL FEVER OF THE TROPICS.

WITH the departure of our troops for active service in the Philippines and West-Indian Islands, and the certainty that we are about to enter upon permanent tropical colonization, great interest has been aroused among the medical profession with reference to the dangers to be encountered by our soldiers in those so-called trying climates. Distance often lends not only enchantment, but fear, especially when connected with diseases of foreign climes.

When the Nicaragua Canal Company inaugurated its work in 1889, so great was the fear of a high death-rate among its employees that extraordinary efforts were put forth in the way of prophylaxis. Nor was this fear unjustifiable; the experiences encountered on the Isthmus of Panama, where "every railroad tie represented a death," the demoralizing death-rate from yellow fever, pernicious remittent malaria, etc., not only among canal employees, but the foreign colonists of Panama and Colon, furnished sufficient grounds for apprehension; and yet the death-rate along the line of the canal from climatic diseases was only seven-tenths of one per cent., a percentage so small as to stagger those who believed that the diseases of the tropics are far more fatal than those with which they are familiar at home.

This low death-rate was the more remarkable in that it did not represent the whole force of men employed, but those actually on the hospital rolls. The climate of Nicaragua deserves large credit for this low mortality, but the policy of the Canal Company was primarily responsible for the good health of its men. While the other departments were weighted down by an abundance of army and navy red tape the administration of the medical department was comparatively untrameled in the hands of the Chief Surgeon. His requisitions were promptly filled and without questions; his judgment on professional matters was considered paramount; his positive orders were simply, "prevent sickness when possible, look after the comforts of the sick, and keep down the death-rate;" his relative one, "as economically as possible." Such liberal orders, such freedom from red tape, unfortunately cannot be attained in our Army, and therefore there must be a relatively larger fatality from climatic diseases; but it would be unjust to charge these results to climate alone. With the exception of yellow fever, tropical dysentery, tropical diarrhea, and the pernicious types of malarial fevers, our troops in the West Indies are not liable to encounter any diseases with which American physicians are not more or less familiar.

Remittent malarial fevers are far more common than the intermittent form; they are more intense in their onset than in temperate zones and require more energetic and prompt treatment, but if intelligently handled, in the vast majority of cases will respond readily to treatment. The most important point for our surgeons to insist upon is the early recognition and treatment of malarial fevers in their various forms. In the Nicaragua Canal hospitals the average duration of cases of remittent malarial fever was five and one-half days; had these patients been neglected in the incipiency of their attacks they would probably have been ill twelve or fourteen days and many deaths would have occurred.

In the tropics a physician does not depend upon small doses of calomel and quinin, nor can he wait for the action of a cholagogue before administering the last-named drug. An active sudorific, followed at half-hour intervals by three 10-grain doses of quinin, which in turn should be followed within two or three hours by a large dose of calomel, rhubarb, and soda, will nip in the bud most cases of remittent fever, so that a daily dose of from 20 to 30 grains of quinin for three days thereafter will be followed by convalescence.

Far more dangerous to the patient than yellow fever, is pernicious malarial fever, especially in the form known as malarial hematuria. This undoubtedly is the disease known as the "black-water fever" in Africa, and a careful perusal of its history will, I believe, show that the administration of quinin, contrary to the report of Koch on his recent trip to Africa, has nothing to do with its production. Those familiar with malarial hematuria in our Southern States and Central America know that generally the hematuria antedates administration of the drug, and disappears when the patient is thoroughly cinchonized. If the milder forms of remittent fever are early recognized and promptly treated, the pernicious forms will not be encountered, for it seldom develops as a primary form; there is always a history of recurring, and generally neglected, malarial attacks, and seldom does it develop in a new arrival in the tropics.

The statement that "malaria, even untreated, in any single attack is a self-limited disease, and successive attacks are milder and milder," unfortunately will not prove true in the West Indies. On the contrary, immigrants from northern climes if properly treated during their first, second, and third attacks of malarial fever, show greater resisting power during the second, and seldom have more than the three attacks. If neglected, each successive illness becomes more severe, and finally they develop the dreaded pernicious type.

Pernicious malaria occurs only in those persons who have been a long time subjected to slow malarial infection, without the proper administration of quinin. So closely does the appearance of the patient resemble that of one with yellow fever that superficial observers have named the disease "highland yellow fever." The distressing symptoms are hematuria, intense nausea and black vomit, extreme thirst, frequently repeated chills of a congestive character, and, at times, sinking turns amounting almost to syncope. The remaining symptoms are those common to other cases of remittent fever; like yellow fever it has an algid, icteric, and hemorrhagic variety. In the algid form there is a marked difference between the rectal and sublingual temperature, amounting at times to 3° F. The treatment of this disease must again be different from that of the mild forms of malarial fever. Promptness, energy, and unremitting watchfulness are desiderata without which the patient will be lost.

Much discussion has lately taken place as to the advisability of administering quinin in these conditions, but I believe the preponderance of evidence to be in favor of immediately thoroughly cinchonizing the patient by hypodermatic doses of quinin and establishing free diuresis and catharsis. In a majority of these patients thorough cinchonism will be evidenced by fall of temperature and amelioration of other symptoms.

Prophylaxis against tropical malarial fever in our camps should consist of changing the clothes before retiring as night, (unfortunately often impossible), avoidance of constipation, and a daily ration of quinin, to which whisky should be added when the subject has been exposed to rain. Sleeping in shacks or in tents with the sides open, and as far as possible selecting for camps high sites exposed to wind and sunshine should be encouraged. Hammocks should be swung at least three feet from the ground; in more permanent locations beds constructed of split limbs of trees are better than hammocks. Mosquito-nettings should always be used, and as the mosquito of the tropics is often smaller than his fellow of the North, a very fine mesh is indispensable. Add to these precautions a careful, systematic medical supervision of water-supplies, kitchens, and diet, a daily inspection of each company by a medical officer, and, finally, rejection at recruiting-stations of men with positive histories of malarial infection, and the invaliding home of all patients who respond only temporarily to treatment and this bogey of the tropics will be robbed of half its terrors.

J. Edward Stubbert, M.D.

ECHOES AND NEWS.

Marseilles Hospitals.—M. Louis Salvator, a resident of Marseilles, has bequeathed his entire fortune amounting to nearly $1,500,000 to the hospitals of that city.

A New Dean for Johns Hopkins Medical College.—At the beginning of the next collegiate term, Dr. Welch will resign his position as dean in favor of Dr. Osler.

Prevention Cheaper than Cure.—*The Hospital* is authority for the statement that the recent epidemic of typhoid fever at Maidstone, England, cost the taxpayers of that village $85,500.

The London Hospital Bazaar.—The bazaar recently held

in London for the benefit of the London Hospital, realized the enormous sum of $100,000. It was held at the Hotel Cecil and lasted two days.

Red-Cross Nurses.—Since General Sternberg has given his consent to the employment of Red-Cross nurses in the military hospitals the society has been most active in supplying nurses, both male and female, experienced and inexperienced, immune and non-immune.

A New English University.—For some time past the establishment of another university to be located at Birmingham has been agitated. It has recently received an endowment of nearly $500,000. The proposed university is to be known as the Midland University, and will include a college of medicine.

Honors to Nurses.—The eleven nurses who devoted themselves to succoring the typhus-stricken peasantry of Inniskea, Ireland, during the epidemic of 1897, have, by the sanction of the Queen, been enrolled Honorary Serving Sisters in the Grand Priory of the Order of the Hospital of St. John of Jerusalem in England.

Medical Department of the University of Denver.—The following professors have recently been appointed in the faculty of the above-named institution: Dr. Carroll E. Edson, professor of therapeutics; Dr. Hobart E. Warren, associate professor of anatomy in charge of the department; Dr. T. J. Gallaher, professor of laryngology and rhinology, and Dr. I. B. Perkins, clinical professor of gynecology.

The Royal Army Medical Corps.—Owing in great measure to the commendable efforts of Lord Lansdowne, the medical service of the British Army has at last received rank and recognition somewhat in accordance with its relative importance and merit. It will henceforth be placed beside the Royal Engineers and Royal Artillery, and the hope is expressed that it will now attract candidates capable of sustaining the former prestige of the service.

Typhoid in the Camp at Jacksonville, Florida.—Regarding the slight outbreak of typhoid fever in the Seventh Army Corps, Colonel Maus, the chief surgeon, says that no local causes had anything to do with the disease in any of the cases. The Virginia and Mississippi regiments were infected by the water at their State camps respectively. One company of the Illinois Regiment partook of tainted meat and the men were doubtless poisoned thereby.

The Memphis Lancet.—Number 1, Volume I. of this journal for the month of July, 1898, is duly received. While Memphis was previously the home only of the *Memphis Medical Monthly*, the *Memphis Lancet* is a welcome addition to the family, and hereafter Memphis will have two medical journals. The *Lancet* starts under the most flattering auspices and promises to take a high place in the estimation of the profession.

History of Medicine.—At the Congress of Scientists and Medical Men, which will hold its next regular meeting in Düsseldorf September 19th to 24th, it is intended to have an exhibit illustrating the general history of medicine. Medical antiquities from Phenicia, Egypt, Babylon, and Medo-Persia, from Troy, Greece, Japan, China, India, Etruria, ancient Rome, as well as medieval and modern Europe will be so arranged as to present a complete panorama of medical progress since the dawn of civilization.

Medical Education for Women in England.—English opinion as to woman's proper share of the fruits of the tree of knowledge is indicated by the fact that science laboratories for the London School of Medicine for Women have been constructed by public donations and opened for use. The dedication exercises were presided over by Her Royal Highness the Princess of Wales, who, as *The Hospital* says, stands in the eye of the British public as the representative of all that is pure and true in womanhood.

The Hospital-ship "Relief."—The hospital-ship "Relief," which arrived in New York Harbor on the 23d inst., presents a striking contrast to the condition on board the "Seneca" which preceded her. On the "Relief" every detail was perfect, every patient was provided with a cot, and there was an efficient corps of trained nurses and surgeons and an abundant supply of medicines, appliances, and delicacies, in fact, everything that a hospital-ship should have for the care and comfort of the Nation's sick and wounded.

To Honor Joseph O'Dwyer and to Commemorate His Work.—At a meeting of the section of the American Medical Association on the Diseases of Children, at Denver, Colorado, June 7–10, 1898, by unanimous vote, a memorial committee was appointed with suitable powers to collect money in conjunction with other similar committees, for the purpose of commemorating the life and work of Dr. Joseph O'Dwyer. The committee is composed of Dr. Louis Fischer, New York, Chairman; Dr. J. P. Crozer Griffith, Philadelphia, and Dr. F. E. Waxham, Denver, Colorado.

Medical Advice by the Clergy.—The Roman Catholic Bishop of Augsburg, Germany, has recently made a communication to the clergy of his diocese on the increasing tendency of the clergy to give advice in cases requiring medical treatment—a practice which he condemns and charges that it be avoided. The action of this bishop is the more pertinent, since the home of the late Father Kneipp and his successors is within his diocese. Would that the American clergy, both Catholic and Protestant, might receive a similar rebuke and that their penchant for quack nostrums might be forsworn.

Accident to the Prince of Wales.—A strong undercurrent of apprehension is said to exist in England regarding the ultimate result of the fracture of the patella recently sustained by the Prince. The condition of his heart and kidneys renders the use of anesthetics dangerous, and the mistake of sending him by slow train up to London from the country seat where the accident occurred permitted the capsule of the joint to become so distended with blood as to prevent approximation of the fragments

of the patella except by radical procedures. Fears are expressed that the Prince will always be lame.

Condition of the Yellow-Fever Invasion. — At the present writing not a single case of yellow-fever exists within the boundaries of the United States, and it is a remarkable fact that not a single case has appeared among either the prisoners or the soldiers who have been brought back from Cuba. General Shafter reports that there are 1896 soldiers in the hospitals about Santiago, and that of these about 150 have yellow-fever. The disease, however, seems to be very mild in character, and the few deaths which have occurred in his army have been due more to typhoid fever and intermittent fever than to anything else.

Responsibility for the Transport "Seneca."—The reports regarding the condition of the "Seneca" which recently arrived in New York Harbor with 125 sick and wounded soldiers from Santiago has aroused great indignation in all quarters. The ship-surgeons and nurses report that they were almost destitute of proper medical and surgical supplies, and were only able to care for the sick and wounded by the most ingenious makeshifts. Surgeon-General Sternberg has ordered an official investigation based upon these charges, so that we shall soon know the exact truth in regard to the condition of the ship and the supplies on board, as well as to be able to fix the responsibility where it rightly belongs.

Dr. Donald Maclean of Detroit, Michigan, who recently received an appointment as Major and Chief Surgeon of Division in the Volunteer branch of the service writes most interestingly in this number of the MEDICAL NEWS on the facilities at Fortress Monroe, Va., for the care of the sick and wounded soldiers from the front. As a former President of the American Medical Association, and as former Professor of Surgery at the University of Michigan, Dr. Maclean's circle of friends in the profession is probably second to that of none in this country, and it cannot but be a source of satisfaction that under his skilful supervision the men who have been wounded in their country's cause will receive the care and attention which they so justly deserve.

A Correction.—Our attention has been called to a statement in our "Philadelphia Letter," published in the issue of July 9th, in which the Baltimore Medical College is apparently accused of improper practices. This is an error for which we tender apologies. It is due to the fact that the article *the* was used instead of the article *a*, and should read, *a* Baltimore medical college. We are assured by our correspondent that the circumstance as described is true in every particular, and that *a* Baltimore college is the culprit. We regret the oversight by which an apparent stigma was placed upon a most worthy institution. The Baltimore Medical College is a member of the American Association of Medical Colleges. With the year beginning October 1, 1898, a four-years' course will be required for graduation.

The Increase of Suicides in Italy.—Suicide in Italy has greatly increased during the last few years. In 1897 the increase, compared with the ten preceding years, was more than 50 per cent. The total number of suicides for that year was about 2000, which corresponds to a "voluntary mortality" of 6.41 for every 100,000 inhabitants. Of this total 1404 were men and 596 were women. Married persons numbered 810, unmarried 949, widowers 177, and widows 61. The greatest number of suicides took place in the three months of spring and those of summer, being respectively 614 and 572. Professor Lombroso attributes the increase in the number of suicides to the greater difficulties of supporting life, to burdens which weigh each day more heavily upon the country, and to despondency caused by the utter hopelessness of the future.

The A. M. A. Code of Ethics.—Dr. W. O. Bridges in his recent presidential address before the Nebraska State Medical Society expressed the following sentiment: "I must dissent from the opinion expressed at the semi-centennial of the American Medical Association in the presidential address of our distinguished surgeon, Dr. Senn, when he said the code of ethics was the bulwark upon which was founded the Association, and that without it disintegration and collapse would follow. I cannot believe, nor do I want to believe, that a written code of morals is essential to the life of an organization made up of such men as are active workers in such an association. One of the best working societies in this country, and one which takes a more active part in public matters than any other, has already abandoned a code of ethics framed upon a liberal basis and is now working without any code at all." The *Western Medical Review* congratulates Dr. Bridges upon his courage in promulgating this sentiment, and declares he was only expressing the private views of a very large majority of the Society over which he was presiding.

The Playfair Dinner. — Upon the recent retirement of Dr. Playfair from the active staff of King's College Hospital he was made the recipient of a complimentary dinner, Lord Lister presiding. In his response to a toast drunk in his honor, he said: "When on leave of absence from India I noticed an advertisement in the medical journals for the post of assistant physician-accoucheur to this institution. My application was sent in, and I determined if elected to become an obstetrician. No more was thought of the matter until an intimation of my appointment was received, when I found myself confronted by two duties. One was to find out where the hospital was situated, and the other to learn something about obstetrics." Touching his now celebrated trial he departed from his determination never to mention it, especially in public, so far as to assure his hosts that all annoyance and distress connected therewith were more than counterbalanced by the warm symphathy he had received from the profession, his patients, and even from persons with whom he had little or no personal acquaintance. Among the manifestations from the latter was a letter from the late Mr. Gladstone commending the line of action he had taken.

CORRESPONDENCE.

OUR FOREIGN LETTER.

[From Our Special Correspondent.]

DOCTORS' DAY AT WIESBADEN — THE QUESTION OF WOMEN STUDYING MEDICINE AS GERMAN DOCTORS SEE IT — PROFESSORS LEYDEN AND GUSSEROW CONCERNING PREGNANCY WITH HEART DISEASE — AN ANATOMIC FOUNDATION FOR SOME PHASES OF PHYSIOLOGIC PSYCHOLOGY.

BERLIN, July 20, 1898.

UNDER the presidency of Sanitäts Rath Aub of Munich, "Doctors' Day," the occasion upon which the representatives of German medical societies meet to discuss subjects of interest to the doctors personally, in contradistinction to the meeting of societies to discuss scientific medicine, was held this year at Wiesbaden, June 28th and 29th. The relations of medical men to life-insurance companies were discussed, but from standpoints not of interest to American doctors generally. Somehow the impression one gathers from it is that the regulations now demanded by the physicians as regards fees, examinations, etc., are such as the liberal progressive policy of our great life-insurance companies introduced into the routine of business methods years ago.

A very interesting discussion, however, was that on the question of women studying medicine, which has been looked forward to with a great deal of interested anticipation by German medical men generally. The opening of the discussion had been referred to Professor Penzoldt of Erlangen, who evidently represented German medical opinion on the subject very well, since his conclusions in the shape of a thesis were adopted as the expression of the sentiments of the meeting by a large majority.

Professor Penzoldt is opposed to opening the doors to women for the study of medicine at present and states his reasons very forcibly. The demand for the privilege comes from two sources—the desire for equal rights and the wish to open up new vocations to women. As far as equal rights in education are concerned, he considers that what the world needs is not educated or half-educated women, but women healthy mentally and bodily, to fulfil the duties of wife and mother, which must remain for the vast majority of women the ideal and happiest vocation. He hopes that in this present women's movement this will not be lost sight of and future generations will have the precious privilege of knowing "*the genuine German woman.*" As to new vocations for women they are needed, but medicine must not be the first. It is extremely unsuitable, difficult and toilsome, and its rewards are small and slow for the majority of practitioners. Every one thinks he or she knows a little medicine, and thinks it will not be hard to learn more, but this is the veriest illusion. Women have shown themselves capable of pursuing university medical studies, but their success seems due to greater industry than men and to better memories, and very little can be hoped for from them as scientific investigators. They overdo the work. In practice they are much less successful than men and the few exceptions who have succeeded in making a successful career for themselves, are the pick of the sex who really prove the rule of woman's much less adaptability to practise medicine than men.

Medicine requires too much work, too long study, too great expense, too much preparatory education for woman. Other callings in the commercial and industrial worlds pay better, are easier, and are not so demanding. In the medical line, perhaps, the callings of dentist and apothecary may be suitable for them. As an outlet for their natural feelings, which is sometimes spoken of as a reason for their studying medicine, there is open to them the occupations of trained nurse and midwife. Much might be done to raise these callings to a higher plane of usefulness and lucrativeness, if a better class and better educated women would enter them, and especially is this true for midwives.

As to the objection sometimes raised, that women suffering from genital affections do not care to apply to a male physician until serious symptoms develop and then it is at times too late, or at least only recourse to the knife is possible, he said German doctors, as a rule, are too careful of the feelings of their patients for this to be true, and the doctors to whom such an objection would apply are fast disappearing. The real difficulty in this matter, as Professor Müller pointed out, is (1) that gynecologic affections begin so often with insidious symptoms; (2) that women are often careless of initial symptoms, and (3) that they fear to know the truth and dread the operation that may eventually be necessary. Professor Penzoldt's conclusions which by vote became the resolutions adopted by the meeting are: I. "If the privilege of practising medicine should be allowed to women under like conditions as to men (this not to include, however, the opening of schools to them), then under present circumstances there is no reason to think that there would be a rush to the profession. II. If, however, because of circumstances and conditions not foreseen at present, there should come such a rush, there would result therefrom (1) no special benefit to patients; (2) more harm than good to the women themselves; (3) least of all can any benefit be looked for from such a movement for the German universities or for scientific medicine; (4) the present position of the profession in the eyes of the public would certainly suffer from it; (5) no furtherance of the general good can be expected from it."

In addition to these resolutions the following from Dr. Reich of Breslau was adopted: "The preparatory education of women admitted to practise medicine must be the same as that of men and their requirements for examinations must be the same." There must be no question of women being allowed to neglect the study of general medicine to apply themselves to special branches. Notwithstanding the serious opposition, then, there is in the tone of the resolutions adopted something that indicates that it will not be long before women will be granted the privilege to practise in Germany as they have within the year been allowed in Austria and Hungary. I have stated before that the tendency in this direction is evident, and that the granting of the privilege is a matter of the near future. I see no reason to change such views in the face of the opposition so generally ex-

pressed at the meeting. The resolutions are the last protest of the conservatives against the inevitable and contain in themselves the acknowledgment of that fact.

At a recent meeting of the Charité Arzte (the Society of physicians and surgeons of the Charité Hospital) there was a renewal of the old-time discussion between Professors Leyden and Gusserow as to the question of valvular heart disease and pregnancy; that is to say, Professor Gusserow read a paper on the subject, and it was discussed by his own and Professor Leyden's assistants, Prosessor Leyden being unavoidably absent at the banquet celebrating the tenth anniversary of the Emperor's coronation. The same question was discussed four years ago and since then has been the subject of special attention on Professor Gusserow's part. He has had seventy pregnant patients with valvular lesions, but four cases proving fatal, forty-six of the women carrying their children to term. This is very different from the statistics of the clinicians who claim that fifty to sixty per cent. of these cases are fatal. Such statistics are evidently due to the fact that the internists see only the severest cases and their conclusions cannot form a rule for the practitioner.

As to abortion for failing compensation Professor Gusserow has found artificial termination of delivery much more dangerous than natural delivery and spontaneous abortion of much more favorable prognosis than that brought on. He thinks that Nature will in nearly every case bring about abortion herself if it is necessary. Meantime the judging of the indications for abortion is most difficult as states of disturbed compensation supervene at times that seem to be surely fatal in tendency yet recovery ensues, and badly disturbed compensation at the beginning of pregnancy may be followed by comparative well being later. In the discussion it was evident that Professor Leyden's opinion has been modified, and while still thinking the condition serious he does not judge quite so badly of it as before.

A recent meeting of the Berlin Physiological Society was taken up by a series of stereopticon demonstrations of Nissl preparations of brain cortex of various animals by Dr. Schlapp of Fort Madison, Iowa. Among them were some entire sections of the human brain in frontal and longitudinal directions, the first entire sections that have been prepared by this method. They give with low power excellent pictures of the various cell-layers of the cortex and a chance to compare parts of supposedly various function with each other. One fact becomes clear from this general view, that the opinion expressed by some anatomists, that the passage from cortex composed of a certain number of strata or cell-layers to one made up of more or less in number is always a gradual not an abrupt one, is not true. This abrupt transition can be found wherever motor passes into sensory cortex and seems to be especially marked where the optic region begins. A very definite stratum cell-layer exists in this region and the limits of this seem to form an anatomic basis for what so far has been known merely physiologically.

Henschen claimed that the optic region in human beings occurred only in the convolutions lying along the calcarine fissure. Manaco claims that not alone the internal cortex in the longitudinal fissure presides over sight, but that the external cortex of the posterior part of the occipital lobes is associated in this function. These new investigations seem to furnish a scientific basis for saying just what the limits of the optic region are. The characteristic layer cell formation in the cortex of what is known to be the optic region extends beyond the limits marked by Henschen, but never reaches the extent demanded by Monaco's theory. It ceases just where the internal cortex of the longitudinal fissure turns to become the external cortex. In monkeys whose optic region has been shown by Munk physiologically to exist also on the external cortex the characteristic cell-layers run over here. In other animals, as the *pteropus*, the flying-fox of South America, and the horse, it can be demonstrated that other sensory regions, especially those of hearing and smell, have a very definite cortical character in the peculiar arrangement of their cells, which enables the anatomist to very definitely point out their limits. This anatomic basis for physiologic functions of the brain cortex has long been sought in vain, and there are in the cellular arrangements of the cortical layers of the frontal and parietal lobes certain hints at an anatomic substantiation of some of Flechsig's speculations as to association centers that seem to make them of still further interest for physiologic psychology.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

PRECAUTIONS AGAINST YELLOW FEVER—ARMY APPOINTMENTS—PERSONAL NOTES—NEW HOSPITAL BUILDINGS—MEETING OF THE STATE BOARD OF HEALTH—ANOTHER "FAITH-CURE" DEATH—A DIPHTHERIA OUTBREAK—HEALTH STATISTICS.

PHILADELPHIA, July 27, 1898.

WHILE no alarm is felt by the authorities regarding the recent outbreak of yellow fever among the troops at the front, the local health board has determined to be prepared and with this view arrangements have been completed for a house-to-house inspection along the Delaware River front. Chief Nuisance Inspector Kennedy has a corps of twenty assistant-inspectors, and to this number have been added fifteen assistant medical inspectors who will have the matter in charge. Governor Hastings has also given the subject attention, and on Wednesday of last week held a conference with Dr. Benjamin A. Lee, Secretary of the State Board of Health. The Governor directed Dr. Lee to take every precaution necessary to prevent the introduction of yellow fever into any Pennsylvania port.

Dr. Edward Martin, recently surgeon to the Third Pennsylvania Regiment, has been promoted to brigade surgeon with the rank of Major. His place in the Third Regiment has been taken by Dr. Archibald G. Thomson, a son of Dr. William Thomson who was chief of the medical staff of the Army of the Potomac during the Civil War. Another army appointment is that of Dr. John A. McKenna who leaves this week for Falls Church,

Va., having received his commission as Acting-Assistant Surgeon, United States Army. Dr. J. C. Da Costa, Jr., who is also stationed at Camp Alger, was in Philadelphia a few days ago on a week's leave of absence. Dr. Joseph Sailer, formerly pathologist to St. Joseph's Hospital, and a member of the staff of the Pepper Laboratory of the University of Pennsylvania, has been commissioned Passed Assistant Surgeon in the Navy, and has been assigned to duty on board the "Arctic." John B. Scott, a third-year medical-student in the University of Pennsylvania and President of the Houston Club, died July 15th, having been home a few days from the auxiliary cruiser "St. Paul," on which he had served from the time she was commissioned by the Government.

At a recent meeting of the National Relief Commission held in Philadelphia, Dr. M. S. French, the secretary, read letters from every hospital in the city offering the use of their wards to the wounded of the Army and Navy. Letters in reply were read from Surgeon-Generals Sternberg of the Army and Van Reypen of the Navy in which they stated they would gladly avail themselves of this generous offer should occasion arise.

Among the names on the passenger-list of the Bremen steamer "Bremen," which sailed last week, were those of Dr. W. Esterly Ashton and his brother, Dr. Thomas G. Ashton. Dr. W. W. Watson, Professor Pfromm of the Medico-Chirurgical College, Drs. A. A. Apple, Paul Bartholow, and E. Sajous are at Atlantic City. Dr. J. Chester Morris is at his summer home near West Chester, while Dr. Joseph S. Neff is in the Adirondacks, Dr. Henry C. Chapman at Bar Harbor, and Dr. W. B. Atkinson at Asbury Park.

The Board of Trustees of the Medico-Chirurgical College has elected Dr. Robert S. Nones Dean of the Dental Department, and Drs. Walter H. Neall and James D. Price Adjunct Professors. A new ward to be known as the "Dulles Ward" is to be added to the Presbyterian Hospital. The plans call for a building two stories high, 40 x 48 feet, granite at the base with the upper part of brick, red stone, and terra cotta. The building is to be furnished throughout with steam heat and electric light. Another hospital building to be erected soon is the Ayre Memorial Building for the Pennsylvania Hospital. It will be similar to the Garrett Memorial Building, colonial in style, two stories high, and measuring 26 x 70 feet. It is to be used as a clinical laboratory in connection with the hospital, and the plans specify its completion January 1, 1899. The funds were bequeathed by the late Mrs. Josephine M. Ayre supplemented by a gift of $25,000 from her son, Frederick Ayre of New York.

The Pennsylvania State Board of Health met a few days ago at Swiftwater, Monroe County, in response to an invitation from Dr. Richard S. Slee, assistant bacteriologist of the Board. Dr. Benjamin S. Lee, secretary, read the report of the Schuylkill Investigation Committee, in which he said that at Plymouth Creek pipes conveying sewage were found emptying into the river, which presented the appearance of indigo-blue mixed with tar, and had an odor so bad as to compel the committee to turn away. From this point all the way to Bridgeport the water was thick with decaying vegetable matter and refuse thrown from the houses, the stench therefrom being almost unbearable. The farther up the river the committee went the worse became the conditions. At places no means whatever were taken to prevent household drainage and human excreta from entering the water, but apparently nothing was left undone to perfect arrangements for the conveyance of such matter to the river, all seeming to consider it a common receptacle for that which might cause disease if allowed to remain on land. At Pottstown, which for many years past has been considered one of the chief sources of pollution, privies have been erected on bridges or platforms over the water for the Hungarian population living along the banks. At Birdsboro nearly all the houses were found to drain directly into creeks which empty into the Schuylkill.

As a result of the report, of which the above is but a sample, the city of Philadelphia will unite with the State Board and other Boards of Health throughout the State in making a demand upon the Legislature for the passage of adequate laws for the protection of the purity of our streams. What is evidently so necessary in Pennsylvania suggests that similar sanitary reforms should be instituted in other States where investigation may reveal equally flagrant abuses.

After listening to the report the Board inspected the Pocono Biologic Laboratories, to which contracts for vaccine virus have been awarded by Surgeon-General Sternberg of the Army and the Philadelphia Board of Health. Dr. Lee said it afforded him much pleasure to say that Pennsylvania has two of the finest biologic laboratories in this country. The following gentlemen compose the board for next year: President, Dr. George G. Groff; secretary, Dr. Benjamin Lee, and Drs. John Fulton, James H. McClelland, Samuel T. Davis, and Richard Y. Cook.

The coroner's inquest in the case of an infant, aged fourteen months, who died last week of meningitis, revealed another death due to the negligence of "faith-curists." The child was taken ill on July 11th, but a physician was not called in until the 15th. Notwithstanding his warnings, the mother failed to give the child the medicine prescribed, and death occurred two days later. Certainly such negligence on a mother's part should be regarded as criminal, and a curb put upon the freedom from punishment which this cult enjoys.

An unusual number of deaths have occurred during July as a result of the excessive heat, and heat prostrations far exceed the record. Dr. J. Howard Taylor, Chief Medical Inspector of the local Board of Health, has been investigating the sudden increase in the number of cases of diphtheria, as shown by last week's report. He is of the opinion that no serious alarm need be felt, as the cases are of a mild type, and the number of cases is already on the wane. The most unusual feature of the outbreak is the fact that in one ward there were eleven cases, while in the same ward the week previous not a single case was reported. Eight cases of beri-beri were reported on board the German steamer "Steinbek," which arrived this week from Java.

TRANSACTIONS OF FOREIGN SOCIETIES.

Berlin.

IMPERMEABLE STRICTURE OF THE ESOPHAGUS FOLLOWING DIPHTHERIA — ENLARGEMENT OF THE PENIS FOLLOWING REMOVAL OF INGUINAL GLANDS —TREATMENT OF RECURRENT UTERINE CANCER— CAUTERIZATION AS A PREVENTIVE OF INFECTION —OVERFEEDING THE SOLE CAUSE OF CORPULENCE —PATHOLOGY OF BRONCHIAL ASTHMA—VALUE OF ORTHOFORM.

ROSENHEIM presented to the Medical Society, May 11th, a boy aged five years, who, after recovery from a severe attack of scarlet fever and diphtheria in his third year, suffered from a stricture of the esophagus twenty-two centimeters (nine inches) from his teeth. The caliber of this stricture decreased so much that even fluids could not be swallowed, and it was necessary to perform gastrostomy to save the boy's life. All attempts for some time to pass an instrument through the stricture, either from above or below through the fistula in his stomach, failed. At last a very fine sound was passed, and afterward a tent of laminaria, which by its swelling dilated the stricture so that the child could swallow fluid. Treatment was continued until by gradual dilatation the stricture was entirely cured.

EWALD mentioned two similar cases in which the stricture, though impermeable before the gastrostomy, had resolved of itself after the fistula in the stomach had been established. He explained this happy result by saying that the weight of the food in the stomach pulling on the esophagus gradually stretched and so dilated it that fluids and solid masses could pass the constriction. In both of the cases referred to the stricture followed ulceration, and was impermeable to the sound.

At the session of May 18th, MEYER presented a man with an enormously enlarged penis, the increase in the size of the organ following upon the double extirpation of the inguinal glands. It was due apparently to congestion, and there was not the slightest evidence of inflammation. The penis was of soft consistence. Meyer purposed to relieve the condition by a circumcision and resection of a wedge-shaped portion of the organ.

May 25th LANDAU showed a patient from whom he had removed per vaginam the uterus and adnexa for cancer. The growth recurred in a little less than three years, and he had performed an operation for the recurrence. The incision chosen was one beginning in the middle of the left labium majus, and extending backward, half encircling the rectum, and ending at the tip of the coccyx. This wound enabled the operator to remove the recurrent growths which had attached themselves to the bladder wall as well as to the small intestines. Through the vagina a gauze drain was inserted into the peritoneal cavity, and a tube was left in the perineal wound. The wounds were elsewhere sutured. The drains were removed on the fifth day, and the patient made a quick recovery. Landau advised the systematic inspection at regular intervals of all patients from whom the pelvic organs have been removed for carcinoma, as thereby recurrence will often be detected while there is still time to remove it. The incision above described is especially adapted to facilitate the removal of recurrences.

COHN read a paper in answer to the question, "How Far Does Cauterization of Aseptic Wounds Prevent an Infection with Diphtheria Bacilli or Pyogenic Streptococci?" From a long series of experiments with rabbits and guinea-pigs he concluded that cauterization with a stick of silver nitrate is far more powerful than all other caustic applications.

At the session of June 15th HIRSCHFELD spoke of the "Nutritive Needs of the Corpulent." Most authors have supposed that an excess of fat might be due either to a too great consumption of food or to a faulty constitution, which, without any overeating, could produce corpulence. Hirschfeld denies this latter statement, as his investigations have proved to him that corpulence is caused only by overconsumption of food. To settle the question he made observations to determine the amount of food required to keep normal individuals and those of unusual stoutness at an even weight. He found in them, except in so far as individuals differ one from another, no variations from a common law. One case was apparently an exception to this law. A prisoner who was upon a fixed diet made a rather rapid gain in weight of over fifty pounds. Investigation showed, however, that he had after several years incarceration obtained permission to receive sausage from home, which he ate in addition to the whole of the regular fare allowed him. To this overeating was due his increase in weight. The fact that so many women who are stout say that they are small eaters is explained by the writer on the ground that women are usually unwilling to confess to a large appetite.

At the Union for Internal Medicine, May 16th, Fränkel said that the variety of the anatomical conditions found in bronchial asthma indicate that there is not a single underlying process which is the same in all cases. In only four autopsies made upon patients who have died in an asthmatic attack have definite pathologic conditions been found. In one of these the finer bronchioles were filled with mucous clots, which, in some instances, took the form of Curschmann's spirals. The others had fibrinous clots, with the exception of one case, in which the bronchioles were blocked with the desquamated epithelium of an intense catarrh. Owing to the rarity of death in an attack of asthma of bronchial origin there is a sad lack of exact knowledge of the processes underlying the disease; but it may be taken for granted that a bronchiolitis with the formation of fibrinous clots must have been preceded by a marked destruction of the epithelial layer.

VON LEYDEN said that the scarcity of anatomic preparations which show the lesions of asthma is explained by the fact that as soon as an attack passes off the lungs of the patient are to all intents as sound as ever. For this reason, in making many autopsies upon asthmatic subjects, he had never found in a single instance anything in the lungs to explain the occurrence of the attacks. Often, indeed, when asthmatic patients are suffering from some more serious trouble which may cause death, the attacks of asthma disappear. The diag-

nosis during life is made without difficulty by the characteristic crystals which are found in the sputum. In a typical case, especially in young people, the patient coughs and wheezes, but brings up nothing at the height of the attack. When this has passed over a little he raises a stringy mucus, which is seen under the microscope to contain a network of fine fibrinous threads, the meshes of which contain the characteristic Leyden's crystals, and numbers of large epithelial cells. Later the fibrinous masses are set free and epithelial clumps are found in great abundance. In all probability these fibrinous plugs are formed by the coagulation of a serous exudate in the finest bronchioles or even in the alveoli, and as they are separated they bring away with them the epithelial lining of the bronchioles. If the loosening proceeds further mucous and mucopurulent balls appear in the sputum, the fibrinous plugs and crystals disappear. In chronic cases the bronchioles do not become entirely free, but there remains in the finest bronchioles a certain amount of mucous or epithelial matter, which produces emphysema. Still in some chronic cases the restoration to the normal after an attack is so perfect that nothing at autopsy shows that there has been any asthma. This is the more encouraging clinically, as showing that bronchial asthma, even in its severe form, is not incurable, and that the patients suffer more from the complications which are apt to appear in advanced age, than from the asthma itself. This is particularly true of arteriosclerosis. Bronchial asthma may be spoken of as fibrinous broncholitis, but though it has much in common with fibrinous bronchitis, it is not the same thing, for fibrinous bronchitis may exist without asthma. It may also come from an acute catarrh, but only in individuals who are predisposed to asthmatic attacks.

Eosinophile cells are seen in great numbers in the sputum in almost every attack of asthma. The most rational explanation of this fact is that the serum which exudes in the alveoli and in the small bronchi, and which later forms the coagulations and the crystals, has a chemotactic action upon the eosinophilic cells of the blood, drawing them thither in great numbers. Attempts to make of asthma an infectious process have failed. That infection is not present is shown by the absolute lack of suppuration in the fresh attacks. The micro-organisms which have been described in this connection have their origin doubtless in the larger bronchi.

MOSSE reported the "Results of Six Month's Experimentation with Orthoform." This powder was used by insufflation in painful affections of the upper air-passages, whether tubercular or due to acute poisoning, or of an infectious nature, such as angina or diphtheria. In all these cases the orthoform showed itself possessed of anesthetic power, lasting some hours more or less. Internally it was given either as a powder or in solution in doses of 1 to 1.5 grams (15 to 22 grains) for ulceration of the stomach. The powder sometimes provoked nausea, and the solution is therefore recommended. No other objectionable symptom was developed, but at times it appeared as if the patient grew accustomed to the drug, which thereby lost some of its efficiency.

HERZFELD found orthoform of much use in syphilitic and tuberculous ulcers of the throat. The effect lasted for some hours, in rare cases for a whole day. The difference in the duration of the relief from pain might be due to the varying amount of secretion present. It is purely a local anesthetic, and has no effect on the healing process.

VON LEYDEN had found orthoform of great value, and looked upon it as the best substitute for cocain, which it surpasses in being free from any general constitutional effect. It can, therefore, be prescribed without the fear of injury which sometimes follows the administration of cocain.

FRAENKEL called attention to the fact that orthoform has no effect upon the sound mucous membrane or skin, and in this respect cannot altogether take the place of cocain.

SOCIETY PROCEEDINGS.

NORTHWESTERN MEDICAL AND SURGICAL SOCIETY OF NEW YORK.

Stated Meeting, Held May 18, 1898.

THE President, L. DUNCAN BULKLEY, M.D., in the Chair.

ASCENDING OPTIC NEURITIS OF PROBABLE SYPHILITIC ORIGIN.

DR. ROBERT H. GREENE: I would be very glad to have any suggestion made as to the treatment to be employed in the following case. The patient, a man, came under my care two years ago suffering from tertiary syphilis. I put him through a most vigorous course of inunctions and also gave him mercury and iodid of potash internally and tonics to improve the general condition. He did well under this treatment until six months ago when he began to complain of poor vision in the left eye. He was examined by Dr. Kalish, who came to the conclusion that the man was suffering either from optic neuritis or commencing atrophy of the optic nerve. Dr. Collins also saw the patient and expressed the same opinion. At the latter's suggestion I gave the patient strychnin until its physiologic effect was obtained, and also hypodermatic injections of mercury, but without effect. Finally I employed fumigations of calomel and cinnabar and a Charcot spinal douche. His general condition improved and the sight of the left eye became somewhat better. The latter improvement was only temporary, however, and the right eye has now become affected. During the daytime, especially in the glare of the sun, he is almost totally blind. He sees better at night, but he complains of a burning sensation in his eyes. In other respects he seems perfectly well and feels better than he has for years. This is a very meager history from which to make a diagnosis, but if any of the members can express an opinion as to the pathologic condition present I will be very glad. The diagnosis I think lies between optic neuritis, hemorrhage, and gumma.

DR. ROBERT MILBANK: I would like to ask Dr. Greene as to the condition of the pupil of the affected eye

Last November I presented a case before this society in which there was dilatation of the pupil of one eye which had come on suddenly three years previously in a patient who had suffered from syphilis. Under pilocarpin or eserin vision in that eye was as good as that of the other, but as soon as the effect of the drug wore off the pupil again enlarged. It was suggested that he be kept under mercurial treatment, although he showed no other symptoms of syphilis at the time, and ever since he has been taking an eighth of a grain of biniodid of mercury three times a day. The condition of the pupil has not changed however.

DR. ROBERT A. MURRAY: Experience has taught me that these patients improve up to a certain point, reaching a pretty fair state of nutrition, but they progress no further under treatment. The iodid seems to lose its power and some nerve manifestation appears. Occasionally, pilocarpin administered for a little while will result in increasing the effect of the other drugs. I have also seen good results follow the use of conium, given in combination with the iodid. Arsenic in the form of Fowler's solution also aids mercury in its action. If the patient becomes stout under treatment, as is apt to be the case, we should watch the kidneys carefully, for trouble in these organs is very likely to develop. I have also noticed that when the nervous system becomes involved the effect of remedies is less than in patients who do not have this complication. Their condition will remain stationary for a long time and it is almost impossible to obtain any effect from medication.

DR. S. H. DESSAU: Following out the same line of thought suggested by Dr. Murray in regard to the action of the iodid of potassium and the mixed treatment in syphilis, especially in the tertiary stage, I would like to call attention to the use of coca as an adjuvant. I have seen it employed with very remarkable effect in cases in which the patients have been under treatment for years previously without benefit. In one case in particular in which all the manifestations of the disease were present the effect was marvelous. When the patient was first seen there was extensive sloughing of the calf of the leg. He afterward had an eruption of pityriasis rubra universalis, at least a hatful of scales being desquamated daily. Nervous manifestations subsequently appeared, with paralysis of the right deltoid muscle, and finally the patient developed elephantiasis of one leg, and also brain symptoms. At this time he was taking massive doses of iodid of potassium without benefit. As he was very anemic he was also given iron, and, finally, I gave him coca, having read somewhere that this drug is useful in such cases. After he had taken the coca for a week a wonderful change took place, and the elephantiasis disappeared in a short time. Since then I have looked up the literature to see if mention has been made of this remedy, and I find that it is referred to in an Edinburgh journal and also in the edition of Bumstead's work edited by Dr. Taylor.

DR. JOSEPH COLLINS: I examined the patient referred to by Dr. Greene and found the man suffering from well-marked atrophy of the optic nerve of the left eye and a beginning atrophy of the nerve of the left eye. There were no other nervous manifestations. The condition is not especially rare and is in no wise remarkable. Such cases are described in the books as one of the cranial nerve manifestations of syphilis. It is impossible to say whether the lesion is a syphilitic degeneration of the nuclei of the optic nerve of whether it is an infiltration of the sheath. We all know that syphilis has a marked predilection for the cranial nerves, and the second pair is unfortunately often involved. Sometimes it affects the nuclei, sometimes the gummatous formation encroaches on the nerve trunk. A certain proportion of syphilitics become blind from ascending atrophy, and the case in question is an instance of this. I was asked to see the patient largely because it was desired to exclude tabes and beginning general paresis. It was not difficult to do this because there were no symptoms of tabes, no Argyll Robertson pupil, no change in the knee-jerks, no disturbance of sensation, and none of the physical and mental manifestations of the latter disease. By a process of exclusion and from ophthalmoscopic examination the diagnosis of the ascending optic neuritis was made. It was considered that this was a syphilitic lesion, and I advised that the patient be given hypodermatic injections of mercury alternated with hypodermatic injections of strychnin. It is very sad to watch these patients go on to complete blindness but there seems to be no way to prevent it. I have no doubt that the President has seen such cases in the institutions with which he is connected, in the reports of which they unfortunately often figure.

DR. MURRAY: In regard to pilocarpin in syphilitic diseases of the eye, especially those due to gummata, in which it is said that in the beginning the trouble is not due to atrophy of the nerve but to an effusion around the sheath, pilocarpin administered until its constitutional effects are produced will result in an astonishingly rapid absorption effect. Should any secondary effect be noticed, this can be contra-acted by atropin or strychnin. The pilocarpin acts by stimulating the glands of the skin, an effect similar to that which follows hot baths. Large quantities of the iodid should also be given. It is logical to conclude that anything which will stimulate the glands will make the remedies used more potent.

DR. RICHARD KALISH: I saw this patient of Dr. Greene's in August, 1897. There was some hyperopia with irregular astigmatism and quite a number of floating bodies in the vitreous. The nerve head was bluish in color, and slightly excavated in the center. The central artery was reduced in size and the veins dilated. There was no evidence of the existence of retinitis or of choroiditis. The perimeter showed a contraction of the field of vision on the nasal side. I agreed with Dr. Greene that the probable cause was syphilis, and that the patient should be treated on that basis.

In December I saw the patient again and found his vision to be somewhat improved. The floating bodies in the vitreous were less in number, the nerve was paler in color, and the arteries and veins reduced in size. There was an improvement in the field of vision, it being about normal. I could see no reason for changing my diagnosis and advised a continuance of the treatment.

THE PRESIDENT: The mention of conium reminds me that this is a remedy commonly employed by me. I have found that the extract has more effect than conium in tablet form.

DR. J. HENRY FRUITNIGHT then read the paper of the evening, entitled

HEREDITARY INFANTILE SYPHILIS. (See page 129.)

DISCUSSION.

DR. WILLIAM STEVENS: The author has handled the subject in a most thorough manner. I recall a case of a child about five years of age, whose father had suffered from syphilis. I had lost sight of the family after I attended the mother when the child was born. I found the child pigeon-breasted and very feeble. I ordered iodid of potassium and mercury, the latter in the form of calomel, $\frac{1}{10}$ of a grain several times a day, and also cod-liver oil. The child improved very much, gained in weight, and a great deal of the apparent malformation of the chest disappeared within three weeks.

DR. MURRAY: The subject is an extremely interesting one to us all and we should thank the author for bringing it before us. The paper is especially valuable for the reason that it informs us of the signs by which we can determine the existence of hereditary syphilis. It is absolutely necessary that we be able to do this because of the impossibility of obtaining a reliable history from the parents. It is proverbial that persons with syphilis or gonorrhea are liars. It is useless to question the father or mother in these cases for they will only mislead one. We must be able to recognize the signs of the disease. An important point to remember is this: When a miscarriage occurs, make careful observations in order to find out, if possible, what caused the death of the fetus. Or, if this cannot be done without arousing the woman's suspicions, examine the epiphyses of the long bones, also the hair. I have already reported two cases in which I was able to make the diagnosis in this way, and by treatment vigorously employed have been able in subsequent pregnancies to carry the patients to full term and deliver them of living children. It is extremely difficult to make a diagnosis of hereditary syphilis in young children in cases in which the mother has been delivered by some other physician. The history obtainable from the parents is always too meager and unreliable to tell us anything. The existence of the disease can usually be determined by the presence of snuffles in the child, although it must not be lost sight of that this symptom may be due simply to a cold.

In regard to the treatment of the syphilitic pregnant woman, I believe there is nothing better than inunctions of mercury. If the drug is given by mouth it often upsets the stomach and adds to the nausea. Another reason why inunction acts well is because when this method is employed the patient is obliged to bathe frequently and the result is that the skin is kept active. Then, too, mercury is much better for pregnant women than iodid of potassium. For infants I employ mercurial inunction immediately after birth, and also inunctions of cod-liver oil to relieve the inanition and marasmus. In the very bad cases there is nothing to be done; the children always die. The main point is to make the diagnosis in the mother, to institute treatment at once, and to carry it on to the very day of confinement. If the treatment is not kept up late the child may die at the last moment or during labor, for, if the woman has never before given birth to a full-term child she will probably have a difficult labor, and the child will not stand much pressure with forceps. The latter point is an important one for obstetricians to bear in mind. Hydrocephalus is also common in syphilitic children, and I have seen several cases in which there was hydroperitonitis.

DR. KALISH: In regard to the point made by the last speaker, *i. e.*, that the parents of this class of patients are liars, I would like to narrate an experience which strongly bears this out. Some years ago in the late spring a nursing woman was brought to me suffering from neuroretinitis. I happened to know that her husband had had syphilis some years previously and had declined treatment. I ordered that the baby be weaned and put the woman upon appropriate treatment which resulted in curing the retinitis. While she was under my care she brought the child to me. It had the typical symptoms and there could be no doubt that it was suffering from hereditary syphilis. The father insisted that I treat the child as he did not want the cause of its illness to become known. I consented to take charge of the case and ordered small doses of gray powder and cod-liver oil inunctions. The eruption disappeared in a marvelously short time and the child improved in every way. I then left town for the summer and turned the case over to a colleague with instructions to continue the treatment. For some reason unknown to me this physician was not acceptable to the parents and they took the child to another medical man without informing him as to the history of the case. The child was treated for marasmus and died within six weeks. When I asked the father why he had not told the physician the nature of the trouble from which the child was suffering, he replied that he thought it was the doctor's business and not his to find out what ailed the child.

DR. GREENE: There is only one point in the author's exceedingly valuable paper upon which I am obliged to disagree, and that is in regard to the existence of scars around the child's mouth being a positive diagnostic sign of syphilis. There is no doubt that in the majority of cases these scars are due to syphilis, but such is not the case in every instance. A patient in whom these scars were present in a marked degree was recently shown before the Genito-Urinary and Dermatological Society, but there were no other evidences of syphilis in the child and none in the parents. The scars were apparently due to some trophic nerve disturbance, causing atrophic changes in the skin which had taken place during fetal life.

I am quite in accord with the author in regard to treatment. I would suggest, however, that the tannate of mercury is an agreeable form in which to administer this drug to children. It can be given dissolved in milk. Iodid of potassium when given in infantile syphilis gives good results in the same class of patients as it does in

adults., *i. e.*, those who have syphilis of the deeper tissues of the body. In such cases my experience has shown that large doses can be given. Small doses may be given at first and gradually increased. I once gave to a child four years of age from 200 to 300 grains of the iodid during a period of several months, with exceedingly good results. The prognosis of the disease in children is very much like that in adults. If the child is born with syphilis and the deeper structures of the body are attacked the outlook is bad. If the skin and mucous membrane alone are involved the prognosis is more hopeful. My experience leads me to believe that in a large proportion of cases the disease is acquired soon after birth and is not congenital. I have seen four or five cases of chancre of the tonsil in young babies.

DR. MILBANK: The author told us that he did not propose to treat the subject of hereditary infantile syphilis in an exhaustive manner, and this accounts for the fact that lesions of the osseous structures are barely touched upon in the paper. These are most important for they usually develop early and are, therefore, valuable diagnostic signs. The longer the interval between the infection of the parent and the appearance of syphilitic manifestations in the child, the less of an inflammatory nature are the bone lesions. We often find osseous lesions of a low grade of inflammation in young children, and in some cases it is very difficult to make the diagnosis. In two cases which came under my observation this was determined by the result of antisyphilitic treatment.

I am compelled to disagree with the author in his statement in regard to the diagnostic significance of "Hutchinson teeth." There are two varieties of "Hutchinson teeth"—the small "peg" teeth and the notched teeth. The former are not pathognomonic of syphilis, but I never saw a case in which the latter were present in which syphilis could be positively excluded. The most frequent lesion of early syphilis is the fissures of the anus which are positively pathognomonic. In regard to treatment, I use inunctions in preference to anything else, although I occasionally employ gray powder.

DR. MURRAY: Some years ago I made the assertion that when a woman contracts syphilis during a pregnancy the child is seldom born alive. She will usually miscarry. Snuffles is one of the earliest symptoms of infantile syphilis. It interferes with the nutrition of the child, and causes a great deal of restlessness which robs the mother of her rest. I have found that this symptom can be relieved by bromid of potassium, ¼- to ½-grain every two hours.

DR. DESSAU: The paper deals largely with the question of diagnosis, and there are a few remarks I would like to make upon this point. My experience has led me to think that we cannot depend upon any one sign or symptom in making the diagnosis of infantile syphilis. Notched teeth have been mentioned as pathognomonic. I know for a fact that the younger men are very apt to be led to make a diagnosis of syphilis from this one symptom. This is a great mistake. The notched teeth of hereditary syphilis are the second teeth. If the first teeth are notched, the cause is rickets. When the permanent teeth are notched, some other lesion of syphilis is almost invariably present.

As to the eruption, I do not think that even an expert is justified in making a diagnosis of infantile syphilis from the eruption alone. There must be a multiplicity of lesions in order that the disease may be identified. Dr. Murray has mentioned a manifestation which is rare but which I have seen, *viz.*, peritonitis; but I do not think that any one would be willing to make a diagnosis of syphilis in a new-born babe because it had peritonitis. I was taught that an eruption on the palms of the hands and soles of the feet was diagnostic of hereditary syphilis, but I have found that this alone is not more reliable than any other single lesion for I have seen it in patients who were not syphilitic. It is important to recognize the fact that the diagnosis must depend upon the clinical picture which the patient presents. In regard to treatment, mention has been made of many remedies, but I have failed to see a case in which any other drug than mercury was necessary. I use inunctions only and have never seen a child who did not respond to this treatment unless its condition was extreme. I would never administer mercury internally to a new-born infant.

I recently saw in consultation a very interesting case of acquired syphilis in a young child. It was one of five who had contracted the disease from its mother who had a chancre of the cheek. These cases have elsewhere been reported as "an epidemic of syphilis." The child in question was ten months old and at the time I was called was supposed to be suffering from laryngeal stenosis. There was no difficulty of respiration, however. The child was intensely anemic and had a characteristic macular eruption. There was extensive swelling and infiltration of the tonsil and pharyngeal wall, which were superficially ulcerated. There was also infiltration of the lymphatics of the neck. Suppuration and evacuation occurred subsequently and the urgent symptoms were relieved. There was no rise of temperature. The case was evidently one of post-pharyngeal abscess of syphilitic origin.

DR. A. M. JACOBUS: My experience in treating hereditary syphilis has been so limited that it is not worth mentioning. As to gray powder, I believe it to be more efficient and better borne than any other mercurial, calomel ranking second. I am surprised at the large amount or daily dose recommended by the author for young children, for, while these are my favorite remedies in the treatment of syphilis, I have never found it necessary to give more than six or eight 1-grain gray powder tablets, or from four to six ¼-grain tablets of calomel, per day even to adults. In this connection I desire to report a case in order to create discussion as to the causal relationship, if any, of syphilis in the mother and anencephalus in the fetus, complicated by hydramnion.

Mrs. L., aged twenty-four years, married in 1894, gave birth to her first baby in July, 1895, and through infection, believed to have been contracted from a water-closet seat used by a servant who was later found to be suffering from syphilis, developed a chancre on the left

labium majus in December, 1895. The initial lesion was not recognized until later. An attack of measles masked the early symptoms, and it was not until a well-marked squamous syphilide of the palms of both hands broke out in March, 1896, that the diagnosis was made. This was confirmed by Dr. A. R. Robinson, and the patient put upon specific treatment. Somewhat after the Hutchinson method, she was given four to six ¼-grain calomel tablet triturates per day, according to their effect, alternating every two to three weeks with 1-grain tablet triturates of gray powder six to eight times a day. The eruption and other symptoms of syphilis rapidly disappeared under the treatment. The gray powder seemed to cause less flow of saliva and less frequent action of the bowels. The young woman again become pregnant in September, 1896, but aborted in November, probably as a result of the syphilis. In May, 1897, she became pregnant for the third time after having been taking the mercurials some fourteen months. The patient was advised to continue her medicine daily, but during the summer, partly from carelessness and partly because she felt so well, she omitted the mercurials for some two or three months, until I saw her again after her return to the city, when the desirability of further treatment until confinement was brought to her attention and insisted upon. After the fifth month of pregnancy the mother suffered greatly from the violent movements of the fetus which increased in force as gestation progressed and could be seen across the room as the abdomen was struck from within. During the last few months of pregnancy the abdomen became very large and tense, and this, together with the violent movements led her to believe that there were twins in utero. I made a careful examination at the eighth month, but the tension was very great, and, although I was puzzled at not finding the head either high or low, I concluded that there was but a single fetus with dropsy of the amnion.

Labor set in late on February 13, 1898, with a transverse presentation, and early on the 14th, not being able to fix the head at the pelvic brim, I ruptured the membranes, discovered that there was a malformation of the head, and shortly after delivered the child which proved to be a typical case of anencephalus. The child did not move after the body became engaged; it was perfect except for the entire absence of the skull and brain, there being nothing but a flat, hairy scalp, and a macerated or raw fleshy spot about two inches in diameter in the center at the foramen magnum. The amniotic fluid was not measured, but probably amounted to eight or ten quarts and had a peculiar odor like that in cases in which a fetus has been dead in utero for a week or two. The patient was up and about at the end of the second week but developed a slight phlebitis or lymphangitis in the left femoral region during the third week which caused a return to bed for about ten days, after which the puffy extremity and the indurated condition under Poupart's ligament slowly disappeared in the course of six months.

The question is whether the syphilitic taint in the mother caused the malformation of the fetus and the polyhydramnion. The transverse presentation was of course due to the two latter conditions.

THE PRESIDENT: There is one remedy which has not been mentioned in the treatment of hereditary infantile syphilis, *viz.*, the syrup of the iodid of iron in large doses. The Hutchinson treatment (the precipitates with gray powder tablets, and calomel tablets) is simply ideal. It is extremely important to keep the mother under mercurial treatment until the child is born.

DR. FRUITNIGHT, in closing: Much has been said which I had in mind, but, as I said before, the paper was not intended to cover the whole ground. In regard to the radiating scars at the angles of the mouth, it seems to me that in most cases these are diagnostic. If these exist with no other symptoms, this would prove to me—what I have always thought very probable—that syphilis had existed in the mother while the child was in utero and the disease had been checked by appropriate treatment. I touched upon the bone lesions which have been referred to by one of the speakers. I do not consider the "Hutchinson teeth" as absolutely pathognomonic; nor do I think that the diagnosis of hereditary syphilis should be made from one symptom alone. There seems to be some confusion as to the terms congenital and early syphilis. The former applies only to those cases in which the disease is present when the child is born; the latter to those in which the disease is acquired, as from a wet-nurse, after birth. If a woman who is suspected to be syphilitic has been nursing her child, the latter should be placed under treatment at once to counteract the bad effect of the milk. In regard to Dr. Jacobus' case, it has been proved that syphilitic infection is apt to produce hydramnion and hydrocephalus in the offspring.

REVIEWS.

A LABORATORY GUIDE IN PHYSIOLOGY. By WINFIELD S. HALL, PH.D., M.D., Professor of Physiology, Northwestern University Medical School, Chicago. With Appendices on Organization and Equipment. Two colored plates and sixty illustrations. Chicago: Chicago Medical Book Co., 1897.

TO students and laboratory workers in practical physiology, this little book is a valuable aid, but a fair knowledge of mathematics, physics, and anatomy is required as a working basis. The inductive methods of study are used. "The student is given the technic and, through a series of questions, he is guided in his observations. He is not, however, told what he is expected to observe, nor is he told what his conclusions are expected to be." In a well-equipped laboratory with sufficient trained instructors, this general plan will usually succeed and be most satisfactory. Without the above-named assistance, however, the book is occasionally too vague and concise in statement to be of great practical value.

Under the heading of "General Physiology," the methods of observing ciliary motion and the various effects of stimulation of muscle and nerve tissue are described. The subjects presented in Part on II. "Special Physiology"

are: the circulation, respiration, digestion, and absorption, vision, physiological hematology, and an introduction to pharmacology. Other subjects, excretion, animal heat, the voice, hearing, and the nervous system, are promised in a future edition. The appendices contain a description of laboratory appliances and instruments, fully illustrated, and a table giving their cost.

The book has been written with a distinct purpose, and, although its range of application is limited, its usefulness is evident.

THE AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY. Being a Yearly Digest of Scientfic Progress and Authoritative Opinion in All Branches of Medicine and Surgery, drawn from Journals, Monographs, and Text-Books of the Leading American and Foreign Authors and Investigators. Collected and arranged, with critical editorial comments, by twenty-seven contributors, under the general editorial charge of GEORGE M. GOULD, M.D. Illustrated. Pp. 1077. Philadelphia: W. B. Saunders, 1898.

WHEN one considers the enormous yearly strides made in the medical sciences, the vast amount of original contributions to medical literature and the verification of new facts and discoveries some notion may be obtained of the stupendous work involved in the publication of a *Year-Book*, such as the one under consideration.

The general arrangement of the book is similar to that of the two preceding volumes, and the editorial staff remains practically the same. We note the resignation of Dr. Henry Leffmann, who formerly edited the Chapter on Medical Jurisprudence, Hygiene, and Clinical Chemistry, and the division of this chapter into three distinct departments with three new writers, *viz.*, Legal Medicine, by Wyatt Johnston; Public Hygiene and Preventive Medicine, by Samuel W. Abbott, and Physiologic Chemistry, by John J. Abel.

To review the articles in a work of this kind *seriatim*, would be to review the current medical literature of the year. Suffice it to say, therefore, that the work is a most faithful portrayal of all the advances in medicine, exceptionally well edited and arranged, and throughout clear and concise in statement. A simple glance at the full and excellent index demonstrates that it is a veritable encyclopedia. The previous volumes have heretofore occupied the highest plane among books of this kind, and we prophesy for the present one a continuance of this popularity.

TRANSACTIONS OF THE BRITISH ORTHOPEDIC SOCIETY. Vol. II., 1896. Published by the Society. London: John Bale, Sons & Danielsson, 1897.

THIS is a small pamphlet containing eighteen communications pertaining to this special department of surgery. "Congenital Dislocation" is represented by four papers contributed by W. Thomas, N. Smith, Tubby, and Keetley, each of whom offers a different plan of treatment for this affection. The bloodless method of Lorenz receives but scant attention. The Society has under consideration a plan to make a collective investigation as to the results following the various methods employed in treating this malady. An interesting article is that on recrudescent rickets by R. Jones, a subject which has received renewed consideration in connection with coxa vera, which affection is not mentioned in the discussion of the paper. In a discussion on "The Early Diagnosis of Affections of the Spinal Column," W. Thomas calls the attention of the Society to a new diagnostic element early in the development of scoliosis, a clonus of the erector spinæ produced by pressing sharply on one shoulder and then holding it firmly. The remainder of the articles are commonplace.

THERAPEUTIC HINTS.

Removal of Freckles.—1. Apply the following lotion to the face morning and evening:

℞ Zinci sulphocarbolat . . . . . ʒ i
Glycerini . . . . . ℥ ii.
M. Sig. External use.

2. Cover the freckles every other day with the following ointment:

℞ Hydrarg. ammoniat. } aa . . . ʒ i
Bismuth subnitrat. }
Glycerit. amyl. . . . . ℥ ss.
M. Ft. ungt. Sig. External use.—*Tonvenaint.*

Local Application in Gout.—

℞ Potassii iodi } aa . . ʒ iv
Liniment saponis }
Ol. cajaputi } aa . . . ʒ ss
Ol. cari }
Spiritus rect. . . q. s. ad. ℥ vii.
M. Sig. Apply on lint and cover with a protective.

For Syphititic Arthritis.—In cases in which the acute local pain and sensitiveness preclude mercurial inunctions or subcutaneous injections it is recommended to begin with internal mixed treatment as follows:

℞ Hydrarg. iodi rubri . . gr. iss
Potassii iodi . . . gr. lxxx
Sherry wine . . . ʒ v
Aquæ. . . . q. s. ad. ℥ vi.
M. Sig. Two tablespoonfuls a day.

For Psoriasis.—The following internal treatment is recommended by Brory in conjunction with external applications:

℞ Sodii arseniat. . . . . gr. $\frac{1}{10}$
Sodii salicylat. . . . . gr. xlv
Sodii bicarb. . . . . ʒ ii
Syr. saponariæ . . . . ℥ iv
Tinct. gentian. comp. } aa . . ℥ ii.
Syr. simplicis }
M. Sig. One tablespoonful three times a day at mealtime.

For Ivy Poisoning.—Keep affected parts wet with freshly made lime-water. Give the following mixture internally:

℞ Ext. tritici fl. . . . . ʒ iv
Spts. etheris nitrosi } aa . . . ℥ i.
Syr. limonis }
M. Sig. One teaspoonful four times a day.

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXXIII. NEW YORK, SATURDAY, AUGUST 6, 1898. NO. 6.

ORIGINAL ARTICLES.

HEMORRHOIDS AND THEIR TREATMENT.[1]

BY JOHN F. ERDMANN, M.D.,

OF NEW YORK;

PROFESSOR OF PRACTICAL ANATOMY AT BELLEVUE HOSPITAL MEDICAL COLLEGE; ATTENDING SURGEON TO GOUVERNEUR, ST. MARK'S, AND CHILDREN'S (ST. JOHN'S GUILD) HOSPITALS.

FROM the writer's standpoint, hemorrhoids are distinctly a surgical affection, and as such they will be treated in this paper, although the palliative treatment will receive its share of consideration. The close association of hemorrhoids with the genitals makes the discussion doubly interesting to the specialist and the general practitioner. It is not the object of the writer to enter into a prolonged discussion of the causes, nor is the anatomy to be considered in detail, but he trusts that a short description of the pile-bearing area and a few words relative to the causes of hemorrhoids will not be amiss.

The pile-bearing area is but about two and one-half inches in length, beginning at the anal margin, richly supplied with branches from the sacral plexus, and abundantly furnished with arterial and venous channels. It is interesting at this point to note the descriptions given to the end filaments of the veins. They are variously stated as ending in the so-called derivative circulation to that of small sacculations or dilatations, and it is this latter description that is most frequently accepted. To this accepted venous termination the entire hemorrhoidal theory is ascribed. The arteries supplying the pile-bearing area assume a course parallel to the long axis of the bowel instead of transversely, as in the remainder of the intestinal tract. The mucous membrane in this region is peculiarily arranged, particularly so at the lowermost portion of the area. Here the membrane is thrown into folds or columns, forming sinuses known as the columns and sinuses of Morgagni. These folds and columns, with their intervening pouches, frequently, especially so when inflamed or congested, are taken for piles, and it is in this structure that the quack finds his rich reward. These pouches can be everted in all cases, when the bowel is in a normal state, by placing the hands on the buttocks, the patient then bearing down, and as he does so traction being made on each buttock with the fingers. They will then be seen as folds of mucous membrane, and resemble very much in their general appearance small semilunar valves with their concavities upward. A probe can be passed downward behind the membranous-like flap for a distance varying from one-sixth to one-half an inch, and owing to this peculiarity they are frequently but wrongly called fistulæ.

One who sees many cases of these protrusions is astounded in taking the histories at the percentage of patients who ascribe their disease to attacks of diarrhea, although almost all accepted authors lay great stress on the influence of constipation as the causative factor. It cannot be gainsaid that a relative condition exists between varicose veins and hemorrhoids, as in a great many cases of hemorrhoids other varicosities are found. Naturally, with a predisposition to varicosities in the veins at other parts of the body, a very slight exciting cause is necessary to produce the evil. Some of these causes are obstruction to the venous return, as produced by constipation; intrapelvic tumors; retrodisplacements of the uterus; pelvic exudates; atonic condition of the musculature of the rectum and sigmoid; rigidity or stricture at the anus; expulsive efforts as noted during attacks of diarrhea and in the expulsive efforts when the outflow from the bladder is for any reason involved, as in cases of stone, stricture of the urethra, enlarged prostate, cystitis, etc. Alcohol, sexual excesses, masturbation, and even unsatisfied sexual desire are said to be predisposing factors. High living and sedentary habits are also contributing causes. Recently the writer operated in a case which was said to have had its origin in physical exercise. The patient in this case was a prominent amateur athlete, who said that his condition was due to overtraining.

In the general symptomatology the cardinal objective sign is the protrusion of a mass, either constant, or only seen following the act of defecation. This protrusion varies in size from that of a pea to one that practically surrounds the anal margin, and is from a quarter of an inch to an inch or more in length. Hemorrhage, as a sign, is as likely to accompany irritable ulcers, the so-called fissures, fistulæ, malignant diseases, and polypi, as it is to accompany hemorrhoids of the bleeding or capillary variety. Subjectively, the patient is apt to complain of pain at the time of or immediately after the act of defeca-

[1] Read before the Northwestern Medical and Surgical Society.

tion, discomfort, and a sense of an imperfectly emptied bowel, and of tenesmus, which is frequently due to the sphincter grasping the protruded mass. Pain is frequently present in the lumbar region, which may even extend to the thighs and legs. In addition to the symptoms directly referable to the anal region, there is frequently a chain of nervous symptoms of which mental depression, probably due to the fear of the trouble becoming malignant, irritability, fear of some impending disaster, and sexual impairment predominate.

Hemorrhoids, as far as the general practitioner is concerned, may be divided into two great classes, the external and internal. The external ones are those which arise from the tissues outside the external sphincter, while the internal variety consists of those which arise from the lower portion of the rectum, and are seen only when protruded after a movement of the bowels, or protruded as a result of some physical effort, or can be seen upon instrumentation with the speculum or the Kelly proctoscope. The external are subdivided into three varieties: the thrombotic, the cutaneous, and the venous. The latter variety is liable to become edematous, and is then called by some the edematous pile. The thrombotic variety is usually found in the mucocutaneous margin surrounding the anus. They are due, as a rule, to rupture of one of the veins about the anus, occurring as the result of straining during the act of defecation. The pile is hard, very painful, sensitive to the touch, bluish in appearance, and contains clotted blood. The second variety, the cutaneous, is a natural sequence of the thrombotic variety, *i. e.*, the clot is absorbed or organized so that its original site is filled with fibrous tissue. In this type there are, as a rule, no further subjective symptoms than an incessant pruritus, well-marked at night and after physical exercise. The third variety of the external, *i. e.*, the venous, borders very closely in its anatomic appearances upon the type of internal hemorrhoids known as the columnar, pedunculated or venous. In this variety of external piles there is an involvement of the mucous membrane and skin of the anus; the veins are dilated, and the mass may consist of but a single set of vessels or be of such dimensions as to almost completely surround the anus. The symptoms of this variety, barring inflammation and ulceration, are those of a protrusion non- or partially reducible, not painful and not bleeding except when inflamed or ulcerated. The internal class may be divided into two varieties: the capillary, or bleeding, and the columnar, venous, or pedunculated. The capillary pile is never seen externally except in cases of relaxation of the sphincter or of dilatation of this muscle. These piles resemble masses of deeply congested mucous membrane, and bleed upon contact of the finger or fecal mass; in fact, they resemble masses of healthy granulation tissue. They are seen upon the use of the speculum and proctoscope, and ordinarily present no evidences to digital examination; blood is seen after each movement, varying in quantity from a few drops to several drams. In addition to the local evidences, all of the manifestations of anemia are frequently seen, while the patient presents a subjective chain of symptoms which are entirely of anemic origin. This variety will eventually result in the columnar type. The second, or columnar variety, usually known by the names of venous or pedunculated, are made up of a mass of dilated veins and one or more arterial twigs. They protrude upon straining or defecation, and are readily reducible, except in case of neglect, when they are liable to become strangulated, edematous, or undergo ulceration and slough. Should any of these changes occur, it then assumes all the evidences of an inflamed pile. These pedunculated piles can be felt upon digital examination, and seen readily with the use of the speculum or proctoscope.

In examining the patient externally, the Sims position is the best, provided that the buttocks are well separated and the patient strains as though about to have a movement from the bowel; when this is done, almost an inch more of the mucous membrane will be protruded than when in the stooping position. For digital examination, either the lateral or dorsal position of the patient is satisfactory. The finger should be protected with a finger-cot, thoroughly anointed with some bland lubricant. Gentle pressure is then made upon the sphincter until its rigidity is overcome. These finger-cots are so thin that the tactile sensation of the finger is not impaired to any extent, while, in addition, they protect the physician from infection and keep the examining finger clean. For speculum or proctoscopic examination the bowel should be thoroughly clean, and in all sensitive cases anesthesia should be produced. Anesthesia permits of a complete examination being made with a view to locating fistulæ and ulcers, which are frequently present in these cases.

The removal of the cause of hemorrhoids will very often be followed by the disappearance of the pile. This is often seen in cases of cured retrodisplacements, stricture, enlarged prostate, stone in the bladder, etc.

Little can be said in favor of medicinal treatment effecting a cure, but with proper attention to the diet and the regulation of the bowels much can be accomplished in relieving the patient of his misery. The venous variety of the external class is frequently

benefited by applications of cold water once or twice daily, while in the capillary variety a suppository of some strong astringent or an astringent ointment has proved curative in my hands. I am accustomed to use a suppository in these cases composed of the following ingredients:

℞ Ferri subsulph. . . . gr. ¼ to ½
Ext. stramonii . . . gr. ½ to 1
Buty. cocoa . . . q.s.
M. Ft. sup. No. 1. Sig. Use at night.

Morphin may be added in case there is much pain.

In the surgical consideration of hemorrhoids the varieties will be considered in the order in which they were described. The thrombotic type, if left to Nature, disappears almost completely by absorption of the clot, nothing but a skin tab remaining. To relieve the patient of his pain and to allow him to attend to his business without loss of time, it is advisable to open the mass and turn out the clot. This is best accomplished by grasping the pile at its apex with a pair of forceps, and cutting off a piece of the skin or mucous membrane, rather than to incise the tissues, as by the latter means it is often necessary to do a secondary operation, caused by the refilling of the cavity, due to primary union occurring in the incision. I have had the misfortune to be compelled to operate a third time in a case treated by incision. After the clot has been extruded, a gauze dressing is worn for a few days until the resulting ulcer heals. As a rule, this requires about a week or ten days. The skin tab variety is a most potent factor frequently of persistent and unbearable pruritus. To alleviate and cure the patient it is my custom to cut off the skin protrusion and dress the bleeding area with sterile gauze.

The third, or venous variety, of the external class is very frequently cured by the galvanic current in the following manner: A needle is attached to one of the poles and introduced into the mass, while the other pole is placed over the sacral or lumbar region. A current of sufficient strength is then turned on and continued long enough to produce a foam at the point of entry of the needle, or a swelling and blanching of the pile. As a result there is a thrombus formation, occlusion of the vessels, with a final shrinkage, and cure of the mass. Allingham's operation has proved the most satisfactory in my hands in these cases. The time of confinement to the house is from three to ten days. The question of anesthetics is a very simple one. It has been my custom in these three varieties to use nothing but local agents to produce the necessary anesthesia for an absolutely painless operation. During the past three years I have given up the use of cocain entirely, and now use a two-per-cent. solution of eucain hydrochlorate. So far no untoward effects have been observed. The anesthesia is as profound, and is as rapidly induced as by the use of cocain, and is sufficiently lasting to allow of quite a protracted operation.

Hemorrhoids of the capillary variety are treated with fuming nitric acid, applied by means of a glass rod, and then followed by washing the pile with water, or they can be cured by touching their entire surface with the actual cautery. The pedunculated variety is subjected to one of three operations, with preference by the author in the following order: Allingham's, or the ligature; clamp and cautery, and Whitehead's, the latter being resorted to only when the crop of hemorrhoids involves the entire pile-bearing area. Following is the technic of operation: The patient should be subjected to a light diet for a few days, a cathartic being given the night before and an enema the morning of the operation. After complete anesthesia has been produced, the patient is placed in the lithotomy position and the sphincter dilated slowly by the successive introduction of the index, middle, ring, and little fingers rather than by the method of introducing the thumbs and using the tuber ischii as means of purchase for making traction. The former method is not followed by the lacerations so frequently seen when the latter method is used, nor is there such a profound degree of after paralysis of the sphincter. The pile is then grasped in a pair of small volsellum forceps, the mucous membrane is incised about the base of the pile, and the submucous tissues dissected up to the pedicle, which contains the vascular supply. Should the pedicle be a large one, then a transfixion ligature is used, and the two portions tied and cut off; in case the pedicle is small, a single ligature is applied and the pile cut off close to the ligature. Recently it has been advocated that the stump be depressed and the mucous membrane be sewed over the stump, the originator claiming that the process of repair is hurried, and that no ulcer forms at the site of removal, provided the mucous membrane unites *per primum*. He also claimed, and very justly, that the danger of fistulæ is reduced to a minimum. This operation can be performed in a few minutes, and has always proved satisfactory in my hands.

The clamp and cautery method has been advocated by its adherents on account of its simplicity, and also because no ligature is used to enclose in the stump the end nerve-filaments, thereby producing an extra amount of pain during convalescence. In this method the pile is seized with a pair of forceps, as in the preceding operation, and pulled well out-

side the sphincter. It is then grasped in the long axis of the bowel by a Smith or Kelsey clamp, applied close to the base of the pile. The portion to be removed is then cut off close to the blades of the clamp, the bleeding edge is seared with the actual cautery, and the clamp is then eased up gradually to see that no bleeding-points are present. If there are none, the clamp is removed. In case there is bleeding the cautery is again applied before the clamp is finally removed. I have had quite an entensive experience with both of these methods, and cannot see any advantage of the latter over the former, but must say that in the latter hemorrhage is more liable to occur in the hands of the inexperienced than in the former, and that when bleeding does occur it is extremely difficult to grasp the bleeding-point on account of the retraction that takes place. In one case in particular in which this occurred I was called in by a fellow practitioner to check a very free hemorrhage in a patient upon whom he had operated the evening before. It is not advisable, owing to the tendency to stricture formation, to remove the entire mucous membrane by this method, but to leave narrow bands of the mucous membrane between each point of operation.

The Whitehead operation is indicated in cases where the entire pile-bearing area is involved, and in which either of the other operations would require the complete removal of the mucous membrane. In this operation the mucous membrane is incised around the entire anal margin, care being taken not to involve the skin; then a dissection is made extending up the bowel under the mucous membrane to a point just beyond the upper margin of the piles. This dissected portion is then excised and the edge of the intact mucous membrane is sutured to the skin margin of the anus. Owing to the extent of this dissection, the hemorrhage is often quite profuse, but is not difficult to control. Objectional features offered in this operation are the great area exposed to sepsis and possibilities of non-union of the tissues, and as a result stricture formation. My individual experience has been limited to few of these operations, but my observations upon numbers of these cases operated upon by others have more than convinced me of the tendency and danger of stricture formation. The patients so operated upon are usually required to remain in bed from two to three weeks.

The treatment by injections of carbolic acid and oil, or ethereal solutions of iodoform, have never appealed to me in any sense but that of torture, as the pain induced by injections is frequently more lasting than that following any of the operations mentioned. The danger of abscess, ulcer, and fistula is too great, while the permanancy of cure has not been sufficiently established to warrant recommending this method.

Attention should be directed in all post-operative cases to the proper regulation of the bowels, restriction of the diet both as to quantity and quality, exercise in moderation, and the change from a sedentary to a more active habit; otherwise, numbers of these patients who have been operated upon will return with a new protrusion which they consider a result of an incomplete or rather an imperfect operation.

SHOULD NON-ABSORBABLE LIGATURES BE DISCARDED IN GYNECOLOGICAL SURGERY?[1]

By R. STANSBURY SUTTON, M.D.,
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Surgeons, antedating 1845, with the single exception of Nathan Smith, had used only silk or linen thread for sutures or ligatures. These materials were not subjected to any process of preparation beyond the application of a coating of septic wax; the suture material, silk or linen, and the wax were all septic. As a sequel suppuration resulted continually. The wax melted away, the suture material absorbed the serum responding to local irritation, and, preserved at the temperature of the living tissues, the suture material, loaded with bacteria, became a natural incubator for bacteria, a focus, or foci, for distribution to surrounding tissues. The ignorance of the older surgeons as to the value of sterile ligature and suture material, and the absence of a knowledge of germicidal chemicals and heat on such material, coupled with the lack of knowledge of antiseptic superdressing and douches is forever commemorated in their writings, by the oft-repeated expression "laudable pus," in connection with the healing of wounds. If this statement is challenged I ask that the statistics of the older surgeons be compared with those of the present generation, not alone as to mortality but as to the progress and process of wound repair.

In these facts are found an explanation of the failure of our illustrious Fellow, Marion Sims, to perfect the operation for vesicovaginal fistula prior to 1845. In the summer of that year, Metanour of Virginia introduced lead wire as a suture material. Sims, well-nigh heart-broken over his failure to establish the vesicovaginal fistula operation, observed a bit of fine brass wire lying in the path between his office and his home. He picked it up and while toying with it received the suggestion of silver wire as a su-

[1] Read in the discussion upon this subject at the Twenty-third Annual Meeting of the American Gynecological Society, held at Boston, May 24, 25 and 26, 1898.

ture material. A local silversmith produced for him a supply of siver wire. With this new suture material Sims succeeded and gave us, perfected, his vesicovaginal fistula operation.

It was a non-absorbable suture, not an incubator, not a great irritator of the tissues, and without the addition of modern antiseptic douche or prior sterilization. It proved to be the lost link in the technic leading to success. To Sims I accord the introduction to modern surgery of silver wire, the first acceptable non-absorbent metallic suture. From 1845 silver wire advanced in favor. By 1863 Sims and Thomas Addis Emmet had adopted it in all operations within the vagina from trachelorrhaphy to perineorrhaphy. At the Woman's Hospital in New York it was the approved suture material. Emmet extended it use, and with it secured the pedicle in twenty-one ovariotomies. It was used in suture of the uterus after Cæsarean section, and finally it came into general use in general surgery.

The popularity of silver wire must after a half century be subjected to a new test in comparison with a new metallic suture made from aluminum bronze. This substance possesses the advantage of greater pliability, can be tied in knots as readily as silk, and is easier of extraction. Iron, steel, and lead wire, may be relegated to another use, namely, to build a fence around the grave of "Laudable Pus."

During the last fifteen years, under the banner of antisepsis, absorbable sutures and ligature material have almost driven metallic suture material from the field of surgery. What are the materials, and wherein lie their claims to adoption or substitution? The difficulty attending the introduction and removal of silver wire, especially its removal under all circumstances, is an objectionable feature. In this lies the great argument against its use, and the great argument in favor of a more pliable, and, if possible, perishable and absorbable material. Standing midway between metallic suture and silk, catgut, and kangaroo tendon is a substance to be considered. This substance known as "*fil de Florence*," or silkworm gut, was introduced about twenty years ago. At first it was used unsterilized. It is but slightly absorbent and practically non-absorbable. I have removed it from the tissues after two years, and found it unchanged. When successfully sterilized it becomes encysted and harmless in the tissues; when buried completely the loop is kept pliable by absorption of serum; the exposed ends of the suture become hard, and cannot be bent over or twisted, as can the ends of silver wire. In the vagina or rectum they irritate or annoy. Excepting in superficial wounds I have discarded it. It still holds a place in Tait's perineal operation, when the ends are outside of the vagina and should be left long. For the drainage of wounds it is a most admirable material. Silk, catgut, and kangaroo tendon remain to be considered. Silk is the simplest and most perfect of all textile fibers. It is the natural product of the silkworm. Its luster, strength, and pliability commend it above all other material for the ligation of arteries or veins; it is after proper preparation superior to catgut within the abdominal cavity. It is slow and uncertain in its non-irritating disintegration in tissues beyond those mentioned. In vaginal surgery properly prepared silk is very satisfactory. In the cervix it may be left without detriment for months. In all the perineal operations, excepting Tait's, it gives excellent results and is easily removed. In vesicofistula operations I adhere to the use of silver wire.

Since 1866, under the influence of Lord Lister, catgut has come into favor. It claim for superiority is that after its introduction into the tissues it gradually melts away and is absorbed. Raw catgut is always septic. All surgeons have not mastered its management, but when it is well prepared, properly sterilized and chromicized, it forms a suture material of great practical utility. It may be left in the wounds, saving time as well as annoyance to the patient. It lessens the surgeon's labors also. It may be the substitute for silk in all vaginal operations. Kangaroo tendon, also an animal suture material, has been much lauded by Dr. Marcy of Boston. So far as I have used it, it has given satisfaction. But I doubt its superiority over catgut.

In 1845 when Sims succeeded with silver wire and noted the absence of inflammation in the edges of the vesicovaginal fistula, and of cystitis, as characterized by a flow of urine "as clear as spring water," he knew nothing of germs and, therefore, did not know the real cause of his success, nor did he know that science would yet make silk do what it had refused to do for him, nor that silkworm gut or catgut would become acceptable suture materials in vesicovaginal fistula operations.

I will not tire you by bringing up the immortal labors of Schwan, Wolf, and others in biology, or Pasteur and Lister along the development and application of these labors to surgery and the antiseptic principle of antisepsis, but will now turn to the practical application of absorbable or non-absorbable ligatures or sutures to the plastic surgery of the vagina as practised in my private hospital. The preparation of the surface upon which an operation is to be performed stands first in importance. If this surface is not properly prepared and made sterile, any operation is handicapped; therefore, after the patient is anesthetized, the vagina is scrubbed out with a ten-

per-cent. solution of creolin in alcohol, with the addition of green soap, then is rinsed out with ninety-five-per-cent. alcohol, then with 1–4000 bichlorid solution, and finally with sterilized water. The vulva and surrounding surfaces are included in the scrubbing process. If a trachelorrhaphy only is to be done, I have no choice in the suture; it may be silver wire, silkworm gut, catgut, or silk; if posterior or anterior colporrhaphy and perineorrhaphy is to be added to the trachelorrhaphy I use catgut for all. If the perineal operation is to be that recommended by Mr. Lawson Tait, I use silkworm gut. In other forms of perineal operations I employ silk or catgut. In vesicovaginal fistula operations I adhere to silver wire. In all operations on the rectum in which suture material is resorted to, silk and catgut will be found to be the best. To revert to the question under discussion, and its answer, it is my opinion that for buried sutures properly prepared catgut is all sufficient. Excepting in the peritoneal cavity it is always superior to silk. Non-absorbable suture—silver wire and silkworm gut—have but a limited range of preference in surgical operations.

SYPHILIS OF THE NERVOUS SYSTEM.[1]

By CHARLES W. HITCHCOCK, M.D.,
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It is, of course, not the hope of the writer to adequately review so extensive a subject as that embraced in the title of this paper, nor yet is it his expectation to increase the aggregate knowledge of it, but it may not be devoid of profit to call attention to some points which especially tend to make the disease oftentimes obscure and difficult of diagnosis. That the general practitioner very frequently does fail to diagnose, and so to properly treat, cerebral syphilis there will probably be few or none to deny.

In the first place, it is well to recall that syphilis figures very largely, more largely I think than is commonly thought, in the etiology of diseases of the nervous system generally. There are comparatively few forms of insanity in which it does not stand in a causal relation and one writer has gone so far as to claim that tabes is essentially a syphilitic disease, alleging that fully ninety per cent. of cases of this disease date back to a specific origin. Where syphilis is the prime etiologic factor in nervous affections, its effect almost uniformly is to produce an atypical form of disease. It is, therefore, masked under protean forms and it is seldom that two cases follow precisely the same track. The very long immunity, not only from any nervous manifestations, but also from any secondary or tertiary specific troubles, which may follow the initial lesion, not infrequently renders it difficult for the patient to recall the occurrence of luetic trouble, and, therefore, it is likely to be a common source of confusion and difficulty to the careful physician. The wilful, expert, and persistent mendacity so common to the syphilitic patient is also a factor to be dealt with.

Sunstroke, injury, and other inventions of a mind fertile in evasions are not infrequently obtruded by the patient and his friends as the cause of all the trouble. In spite of evasions, denials, and even a most exemplary life for years, it must always be remembered that syphilis of the nervous system may develop at any time, from a few months to thirty years after the primary infection. Cases are on record in which the nervous manifestations have occurred as early as one month after infection, and Fournier has reported a case occurring twenty-five years after.

Gowers says: "Syphilitic disease is a common cause of softening; it is chiefly a consequence of acquired syphilis." As to age, he says: "Half the cases occur between 30 and 40, one-third between 20 and 30, and most of the remainder between 40 and 50. Cases under 20 or over 50 are rare." He further says: "I have met with it as early as six months and as late as nineteen years after the primary sore." Of fifty cases observed by this author, nine occurred between 2 and 3 years after, seven from 3 to 5, nine from 6 to 10, eleven from 11 to 15, and four cases from 16 to 20 years after the initial lesion. The long interval which may thus intervene between the primary lesion and the first symptoms of disease of the nervous system is of great importance and when the period has been long and the secondaries but slight, possibly the initial lesion having been accompanied by but little pain or annoyance, the persistent denial of specific possibilities may possibly be honest on the part of the patient and not seldom throw the diagnostician entirely off the track. Neither should it be forgotten that inherited syphilis may attack the nervous system. Such cases may be seen in infancy or much later in life, cases having been reported at the ages of 8, 10, 14, 18, 22, and 23. H. C. Wood quotes a case as occurring in his practice at 21. Pathology, diagnosis, and treatment are closely connected, for upon the existent pathologic state will depend the symptomatic manifestations and upon the advance which the pathologic lesion has already made will depend possibilities as to results of treatment.

Gumma and arterial disease are perhaps the more common forms of the syphilitic lesion, yet these are not distinctly separable, for it is probably compara-

[1] Read before the Section on Medicine of the Michigan State Medical Society, May 6, 1898.

tively seldom that gumma exists as a separate entity without involving other tissues, aside from pressure and like irritation, and frequently, if not always (one writer says always), the gummatous process begins in the sheath of the arteriole by proliferation of the nuclei which immediately underly the vascular endothelium.

The site of the gummatous process, too, is all-important and may have much to do with the character of the symptoms developed, whether occlusive, merely mental, or paralytic in character, though, of course, the latter point is also quite as largely determined by the stage reached in the specific process. If this has proceeded far enough to cause occlusion of the artery, acute softening may result. "As an isolated change, it is almost confined to the largest arteries . . . and is most common in the internal carotid, middle cerebral, vertebral, basilar, and posterior cerebral." (Gowers.) While the change itself may proceed to the obliteration of a vessel, Gowers tells us that it is much more frequently the case that "when the lumen is considerably narrowed, a clot forms within it and suddenly arrests the circulation, or forms in branches arising from the affected part. The disease consists in a fibronuclear growth in the wall, which causes a nodular projection on the exterior and diminishes also the caliber of the vessel." There may be, then, a simple gummatous deposit, an extensive gummatous involvement of one or several vessels, possibly occlusion and consequent softening, a gummatous meningitis, or a specific meningo-encephalitis. In many cases two or more of these conditions may be present. So much for the more common pathologic conditions.

The symptoms naturally depend upon the pathologic phase present in any given case. While a chronic process may have long preceded the onset of serious symptoms, these may seem to come from a clear sky, *e. g.*, an apparently acute meningitis may rapidly develop, with violent convulsions, and possibly hemiplegia more or less complete follow. It is very frequent that prodromal symptoms, which have great value in diagnosis, have been passed over as insignificant and trivial by the patient and his friends, and the history of their occurrence is accordingly elicited with difficulty. Histories of attacks of irritability, drowsiness, stupor, mental confusion, temporary amnesia, so-called "fainting-fits," apparently causeless headaches, especially with nocturnal exacerbations, any or all, are straws which help the careful diagnostician to determine the direction of the wind. Epilepsy and apoplexy are diagnoses often jumped at and seemingly warranted in these cases, and yet they fall far short of the mark and may leave unaccomplished what might have been done for the patient by an early diagnosis of specific disease.

The prognosis as to what may be accomplished by treatment must, of course, be guarded, for obviously the possibilities will depend upon the length and extent of the gummatous process. The indications are clear to apply antispecific treatment in a vigorous and positive way. If the result of the therapeutic test be attended by an early clearing up of symptoms, it is of course gratifying and may be accepted as a confirmation of the diagnosis. It must be said on the other hand, however, that a failure of the symptoms to ameliorate under treatment by no means affects the validity of the diagnosis, and this is true for reasons already alluded to. In this connection it is interesting to note that Wood regards it as corroborative of the diagnosis that the patient bears well large doses of the iodids, believing that non-syphilitic patients will not bear this treatment without showing a good deal of irritation therefrom. I mention this point for what it may be worth.

Treatment may fail to show the results desired, especially in advanced cases. If a hemiplegia be due to structural changes which have gone so far as to be permanent, entire relief cannot at so late a date be reasonably hoped for. Well-marked paralyses, however, and somnolence and stupor, which have lasted weeks and even months, have repeatedly cleared up under vigorous treatment. While it is characteristic of a hemiplegia due to specific causes that it is seldom complete, this cannot be accepted as an invariable rule for such hemiplegias are at times entirely complete.

I desire to report the following case as confirmatory of some of the points already alluded to in this paper:

Soon after eight o'clock one morning last fall, I was called to see Mr. P., who, I was informed, had just been paralyzed. He is forty-three years of age, a business man, and has every outward appearance to the casual observer of a man in vigorous health. I knew of his having sustained an injury about eight months previous, and while he had recovered from its immediate effects, there having been a fall and contusion about the left hip, he did not regain vigorous health after it and perhaps naturally attributed many of his symptoms to this accident.

When I first saw him it was about an hour after his first attack. He looked a little flushed, was lying on a lounge on his left side, and greeted me almost hilariously, saying, "I'm all right," and gripping my hand vigorously with his right hand. I inquired as to his right leg and he lifted it vigorously and quickly, showing excellent motor control of it. He said that about an hour before, while attending to a matter of business, his pencil suddenly fell from his right hand. He picked it up, but dropped it

again and repeatedly, and in a few minutes found that he had no use of the right side. He was helped into the open air and soon after into a carriage and was driven home. As I have already said, an hour later when I first saw him control of the right side was good. The paralytic symptoms later increased and at 6 P. M. the same day he had but little, though some, use of the right side. Clonic convulsive movements of that side had continued at intervals throughout the day. The next day paralysis of the right side was practically complete. Here clearly was a condition not due to a sudden apoplexy. He was inclined to attribute all of his troubles to the accident which had occurred eight months before, a view with which I was unable to agree.

I find that he has been married twenty years, and that he has two children aged twelve and fourteen, who are apparently perfectly healthy. The family history is negative. He at first vigorously denied the possibility of syphilis, but finally admitted having contracted a suspicious venereal lesion at about his twentieth year, which he says the doctor told him was not syphilitic. Careful questioning, however, threw serious doubts upon this diagnosis and brought out the fact that some years later he was obliged to consult a physician for what was called and treated as "catarrh." At this time there was a noticeable falling in of the bridge of the nose, undoubtedly due to syphilitic disease of the nasal bones. He claims to have been well with this exception throughout his married life and to have been perfectly correct in his habits during this time. Persistent and further questioning as to the symptoms since his accident and the query as to whether he had ever known such symptoms before the injury seem to inspire his memory and he admits that he has had occasional attacks of mental confusion for a year, perhaps, and I learned that his wife has noticed these attacks for a much longer time, two or three years, in fact. At these times he would repeat the same thing two or three times, was very irritable, and was disposed to be very profane, something quite foreign to his usual habits.

I find that one alleged specialist in diseases of the nervous system treated him for two years or longer for "nervous trouble" without ever suspecting the presence of specific disease, and last summer he fell into the hands of a homeopathic practitioner who told him that the case was too complex for him to undertake single-handed and so summoned to his aid a homeopathic neurologist, but no diagnosis of specific disease was apparently made out.

On further inquiry I find that some four years ago in his business office he showed attacks of marked aberration of memory, when he could not recall events of the day before nor letters written that same day. I am unable to learn of marked convulsive attacks. He has never fallen at home, but in his office has nearly fallen two or three times, only the timely assistance of others saving him from a fall. At home, it has been noticed two or three times during the last year that his speech seemed unusually thick. These attacks would pass off in from one-half to three-quarters of an hour, and there was no loss of motor control attending them. Throughout the summer of 1897, however, he at times had had difficulty with the right side while walking, had less control of that side, and the right foot was clumsy.

Aphasia was only partial when motor hemiplegia was complete, or nearly so, and the speech soon improved. At 6 P.M. on the day I first saw him his pulse was 80, soft and regular, and temperature 99.4° F. At 11.30 A.M. next day, pulse 67, of like character, and temperature 98.2° F. For the next ten days the temperature, at times normal, was more frequently 99.2° to 99.4° F.

My diagnosis of hemiplegia due to specific disease was based primarily upon the history of suspicious infection, which was confirmed by his later alleged "catarrh," upon his history of prodromal attacks of mental confusion, irritability, temporary amnesia, and tendency to convulsive attacks and his age. My prognosis, owing to the long period covered by these prodromal symptoms, was necessarily guarded. I expressed my belief in his ultimate improvement, though to what extent the paralysis would disappear, no one could say.

He began at once to take sodium iodid, 20 grains, three times daily, and this was soon increased to double the amount. He also during two months received a daily inunction of 30 grains of mercurial ointment. After a week he began to move the right hand and there has been gradual improvement in motor control since that time.

His mental phases have been more difficult of management, and these cases, in this respect especially, often tax the resources of the most fertile therapeutist. After a steady and vigorous pushing of the antispecific treatment for two or three months it was gradually diminished as I feared the iodids had to do with the increasing intense nervousness and irritability which annoyed him exceedingly. At these times inhibition was practically *nil*.

Attempting to control this state by 5-grain doses of trional at intervals of four hours through the day, I had a most unusual experience. On calling to see my patient on the day following the giving of this prescription I was greeted most hilariously; he told me he was "fuller'n a tick" and his actions confirmed his statement, for they were characteristic of a man moderately drunk. He confided to me that it was "the cheapest drunk he had ever had," and that he "felt bully." I mention it because it seems to me a very unusual effect of the drug, especially of so small a dose as 5 grains.

Faradism was most acceptable to the paralyzed side and it has never failed to exercise a most pleasing sedative effect upon the patient, who has improved rapidly of late and now rides and walks out daily though he will always bear marked evidence of the hemiplegia.

I do not feel any the less sure of my diagnosis because a vigorous antispecific treatment failed to entirely clear up the paralysis present. I attribute this failure to the permanent structural changes which had

taken place before I first saw him. I believe that an earlier recognition of the real cause might have saved him from the hemiplegia.

Another case in point, and one which well illustrates the efficiency of antispecific treatment when vigorously pushed, is that of Mr. W., whom I saw only recently in consultation. The patient was not in a condition to give any family or personal history himself and his relatives could add but little information except to confirm a rumor that in early life he had been at one time "pretty lively," and that during the previous six months he had been drinking heavily but had abruptly given up his alcoholic indulgence about three weeks before I saw him. He had had no distinctly alcoholic symptoms.

The patient is fifty-two years of age, a widower, had been married about thirty years; no children; wife had miscarried. He is a business man, having charge of the bookkeeping and the financial end of his business. From those associated with him I learned that for several months he had complained of severe headaches, and that there have been periods of mental confusion and great irritability. He would come home at night and attempt to read the evening paper, but would have to lay it aside, saying that it confused him and that "everything seemed to run together." His headaches were so violent that he repeatedly had to leave his work. I also had other reasons for suspecting that this man had had syphilis years before.

The patient was in a deeply somnolent state, did not recognize me, and responded to questions only by monosyllables, after much rousing, and then only in a half-intelligent manner. He could not complete a sentence nor carry an idea long enough to express it. He evacuated both bladder and bowels in bed without warning. There were no localizing or paralytic symptoms. I diagnosed the condition as cerebral syphilis and advised his physician that he be given potassium iodid, 40 grains, three times a day, and a daily inunction of 30 grains of mercurial ointment, the site of inunction to be changed each day. This advice was followed, with the happiest results. Improvement, at first slow, was steady, and after the first week was marked and rapid. His attending physician reports to me that he is now apparently as well as ever and that he has since married.

The results of prompt and energetic antispecific measures in these somnolent or stuporous cases are often most marked and are as gratifying to the patient and friends as they are to the physician. It is particularly important that a correct diagnosis be made early, that is, before permanent changes have taken place, as in that case only can one hope to obtain satisfactory results from treatment.

A Present to the "Relief."—Dr. William M. Polk of New York has presented to the hospital ship "Relief" for the use of the surgical staff a complete set of surgical instruments valued at $500.

WAR ARTICLES.

THE MORBIDITY OF THE VOLUNTEER FORCES AT CHICKAMAUGA PARK, GA.

By HENRY I. RAYMOND, M.D.,
MAJOR AND SURGEON, UNITED STATES VOLUNTEERS.

In writing you from Tampa, Florida, a few weeks since upon the morbidity of 10,000 regulars of the United States forces during their first calendar month in the field I expressed the hope that at some day in the near future I might make use of that statistical review as a basis of comparison for the morbidity that would be revealed during their first month of foreign invasion, or occupation, of Cuba. The troops being about to sail from Tampa, I was unexpectedly detached for duty with the Volunteer forces at Chickamauga Park, Georgia, and thus my former plan miscarried.

Through the courtesy of the Chief Surgeon of the Third Army Corps, and that of the commanding officer of one of the division hospitals, I am enabled to give your readers a statement and numerical summary of the principal diseases that have affected the troops of the division (say 10,000 strong) during their first month in the field here, and likewise during the first month of existence of this division hospital. It is chiefly, however, upon the so-called preventable diseases that I shall touch, inasmuch as means have been taken to prevent the further occurrence of these diseases among the troops located here by very particular attention to the purification of the water-supply for potable purposes, to a deterioration of which may justly be attributed the enormous amount of sickness in several of the regiments. It is believed that the sick-rate will be greatly reduced for the coming month coincidently with the introduction and use of the Maignon and Berkefeld water-filters. These have been distributed as follows: For each division hospital one of each make; for each ambulance company one of each make; for each division headquarters one of each make; for each regiment ten of each make. The date of distribution of these filters is nearly coincident with the termination of the period of thirty days covered by this report on the morbidity of the troops. Consequently it will be of exceedingly great interest to compare this month's sick report with that of the ensuing month. All the waters of this park have been condemned. They are unfit for use for drinking purposes in their natural condition. Before filters were received boiling of the drinking-water was of course resorted to, but failed to accomplish the desired end. Not but that the boiling destroyed all disease germs but the practice fell somewhat into disuse, because soldiers were averse to the drinking of unpalatable, luke-

warm or unsightly water, and were not thoroughly convinced of the unhealthfulness and suspicious character of the streams in this vicinity and consequently the requirements enjoined were not lived up to nor could they well be rigidly enforced. Now, however, we have had our object lesson and the enormous sick report has awakened a personal sense of the danger that lies in a disregard of sanitary precautions on this score. Since the Maignon and Berkefeld filters have been put into operation in our own camp the men eagerly fill their canteens from the purified water-supply and feel a large sense of security from attacks of typhoid fever, diarrheas, and dysenteries which have afflicted their comrades or themselves during their encampment here. We confidently look for a higher morale and a fuller sense of well being to prevail from this time on.

The report below covers the period from June 10th to July 10th and accounts only for the cases of sickness of such severity as to require hospital treatment. The figures are only approximate but substantially correct. The mean strength of the command for thirty days was: officers, 406; enlisted men, 9477; total, 9883. The number of admissions to the hospital (none being sent there who could possibly be treated at the regimental dispensaries, or as officially designated, "in quarters") was 735. The number admitted to sick report, of course, greatly exceeds the number sent to division hospitals, and in one or two regiments the admissions to sick report for the month equaled or perhaps exceeded 100 per cent. of the regimental mean strength for the month. The result was that something had to be done to greatly diminish this sick-rate or the regiment or brigade would soon be so reduced by non-effectives that preparations for an active campaign would have to be temporarily suspended. The remedy has been prescribed—means for purification of the drinking-water—and it remains to be seen how effectively it can be applied.

Of the 735 men admitted to the hospital about 450 have been returned to duty, about 25 have been sent to Leiter hospital, and 4 have died (1 of typhoid fever, 2 of cerebrospinal meningitis, and 1 of acute enteritis). About 2700 days have been lost to the government on account of sickness in hospital. Among the more serious cases, including the infectious diseases, affecting those admitted to the hospital are the following:

Pneumonia, 14 cases or .14 per cent. of the mean strength.
Typhoid fever, 88 cases or .89 per cent. of the mean strength.....
Acute diarrhea, 84 cases or .84 per cent. of the mean strength.
Malarial fever (intermittent and remittent), 194 cases or 1.9 per cent. of the mean strength.....
Measles, 87 cases or .88 per cent. of the mean strength.
Mumps, 14 cases or .14 per cent. of the mean strength.

I am strongly of the conviction that many of the remittent cases of so-called malarial fever will turn out to be mild cases of typhoid fever, as I can remark from examination of the records that fewer and fewer of the remittent-fever cases are entered on the register as malarial and proportionately more cases of continued fever are classified as enteric fever as the month progresses.

For all these infectious diseases, aggregating 380 cases (excluding 101 cases of measles and mumps), it is not far from the truth to affirm that the drinking-water is responsible. These diseases are preventable, and now that we are bountifully supplied with the means for routing both our invisible foes—the microbes—and those more tangible and macroscopic impurities that irritate the digestive tract, it will be our own fault if we supinely submit to their further inroads. Our warfare, however, must be aggressive, our vigilance unabated. The filters will get out of order; the water details will come in late; muddy water will be hauled because the clear springs are farther distant and the filters will become clogged with the clayey deposit and consigned to desuetude. We must learn the lesson early that it is better to spare two men from our effective strength for keeping the balance of the hundred off sick report than it is to destroy our effectiveness altogether by the neglect of sanitary precautions in the matter of providing an unimpeachable potable water-supply.

A NEWLY DEVISED CAMP SINK, OR LATRINE, FOR THE USE OF PERMANENT OR SEMI-PERMANENT CAMPS.

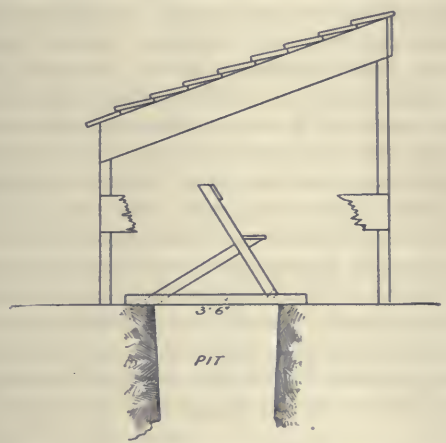
By JOHN McG. WOODBURY, M.D.,
MAJOR AND ACTING CHIEF-SURGEON, FIRST DIVISION, FIRST ARMY CORPS, UNITED STATES VOLUNTEERS.

ALMOST the first thing that arrested my attention on arriving at Camp Thomas, Chickamauga Park, and assuming the duties of acting chief-surgeon of the First Division, First Army Corps, to which I was assigned, was the condition of the sinks and latrines. These, to the number of seventy-three, I regularly inspected every day, and after much hard work got them into something like order and properly policed. Their filthy condition and the carelessness in policing I found mainly to arise from the lack of knowledge of the regimental surgeons as to a proper method of construction, the ignorance of the line officers as to the necessity of absolute cleanliness, and the prevailing carelessness of the men themselves, who, imagining that they would be ordered to the front at once, and ignorant of the fact that they were in a semi-permanent camp, let go every thought for the morrow, and became indescribably filthy in these matters.

After repeated inspections and calling of the attention of the regimental surgeons to this state of affairs, together with a careful pursuit of the line officers made me aware of the fact that in our army, at least, no regular method of construction was followed, and the literature on the subject being very scanty, I set myself to designing a sink for this purpose, which in this country where lumber is cheap, can be built for companies for $3.50, and for battalions for $5 each.

As the new regiments came in they were given a blue print of the design and a typewritten copy of the instructions, while for those on the ground when the old sinks were filled and new ones found necessary, they were built on this plan, save in the case of one of the Pennsylvania regiments, which came into camp splendidly equipped with shelter-tents to cover their sinks, and six-feet-high modesty-pieces hung to the poles. These they had had in use for some years, and so only the pit and seat were necessary for them. This uniformity in construction as well as the simplicity of the method of the same renders inspection easy, and when the absolute necessity of cleanliness had been forced upon the

Fig. 1.

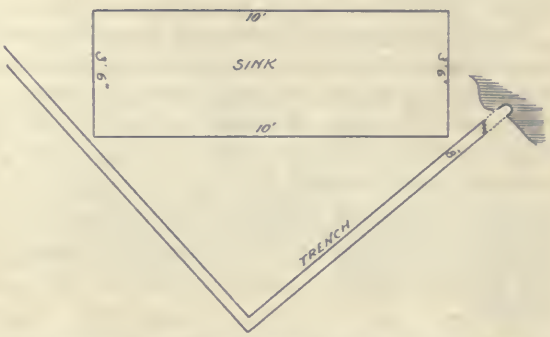


Elevation of shed, seat, and sink of latrine for permanent camps.

minds of officers and men, the latrines were readily kept in order. The policing consists of covering the dejecta of the men to the depth of four inches every six hours with earth, and when it can be obtained, an inch of unslaked building lime. As is well known, the common house-fly lays its eggs and the larvæ are developed in human feces as in the dung of horses, so that the transportation of many micro-organisms, such as those of some of the enteric disturbances, yellow fever, etc., is possible by means of these pests. The addition of the roof to the sink is much to the comfort and health of the men, who in wet weather, especially at night, will seek any shelter for such purposes rather than expose themselves to the elements. In addition to this, they are more certain to keep clean by making use of a well-constructed and comfortable sink than one carelessly or uncomfortably built. The man with typhoid fever who uses a camp sink, and who through careless policing leaves the sink with soiled hands, can transmit through the medium of handling a drinking-cup the germs of his disorder.

The accompanying plans for the construction of sinks are for company and battalion arrangement. The company sink calls for a pit 10 feet long, 10 feet deep, 3 feet 6 inches wide at the surface, and 2 feet 6 inches at the bottom. The battalion sink doubles the length with the same depth and width. These are protected from the flooding of surface water by a chevron-shaped ditch with the apex to the highest ground, and carried well to the rear on the wings. This ditch should be eight inches deep, and

Fig. 2.



Arrangement of drainage-trench for permanent camp latrine.

the excavated earth should be thrown to the inner side and there embanked. Over the top of the sink are placed three transverse pieces of lumber, "bed-pieces," 2 by 4 inches and 6 feet long. Upon each of these is raised an inclined support composed of two pieces of lumber, 2 by 4 inches, the piece at the front having an inclination of 120 degrees. The one at the back meets the one at the front so as to cross it at a distance of eighteen inches from the bed-piece, thus forming the support of the seat. At this point of crossing they are securely fastened together, and the back one cut at a mitre, so as to have the mitred face parallel with the bed-pieces. Upon these mitred faces of the back supports is stretched a strip of board 1 by 6 inches wide, forming the seat. At the top of the front pieces is also stretched a strip 1 by 6 inches, forming the back. This back prevents the possibility of falling into the sink backward from the seat.

This arrangement of bed-pieces, inclined supports, seat, and back being securely fastened together, can be readily removed to a new sink when

the old one may be filled or disused for any reason, as it is light and strong. The broom-scrubbing of the seat with 1 to 1000 bichlorid-of-mercury solution every day will keep the seat free from vermin, filth, etc., as it is easily accessible in every part.

This sink, seat, and excavation is protected from the elements by a shed formed of 2 by 4-inch scantling and boards 5 feet high in the rear and 7 feet high in front, 12 feet long and 8 feet wide, having face-board diagonals as shown in Figure 1; also, a rail 3 feet from the ground on the upper side, formed for the purpose of security of the sink to visitors at night, and also for support of a screen or modesty-piece. The proportions of the shed or cover are sufficient to allow of men passing one another between the seat and front rail, and long enough to allow of standing at urination at the ends. The uprights at the sides of the shed are bedded on two strong pieces, eight feet long, which hold the structure firmly, permitting its bodily removal to another position.

The screen or modesty-piece may be made of canvass or cotton drill tacked to the guard rail and allowed to fall to the ground, forming an efficient protection from view. The cost of lumber is about $4, at a price of $15 per 1000 feet. The low cost, ease of cleansing, ease of transportation, the simplicity, strength, and ease of policing are the features which especially recommend it. The necessity for its adoption in a permanent or semi-permanent camp is obvious.

THE CONDITION OF THE SICK AND WOUNDED IN THE SANTIAGO CAMPAIGN—INEFFICIENCY IN PROVIDING HOSPITAL SUPPLIES.

[Special Correspondence of the MEDICAL NEWS.]

SIBONEY, CUBA, July 8, 1898.

I HAD expected to send you a letter dealing with matters in general aboard the magnificent floating hospital ship "Relief" but a day or two spent on land at this place, and the sights seen here, compel me to leave the pleasanter page of the "purple testament of bleeding war," if there is such a page, and to tell a plain, unvarnished tale of criminal incompetency, of untold, unnecessary suffering, to give a chronicle of treatment of the soldier which would disgrace a Hottentot or a Turk.

I know that this peroration smacks of the sensational, and possibly, may seem hysterical. Well, here are the cold, hard facts, which can be proved and are attested by dozens. To go back a bit: our troops were kept packed like dried mackerel on the transports under a broiling sun in Tampa Bay, from one Tuesday until the next, when they started on their journey to Cuba's southern coast, where they arrived just one week later. Many of the transports were dirty, rotten old boats, and horribly crowded. The "Yucatan," for instance, carried 1500, the allotted capacity being 800 at the outside. This is a fact, as the Rough Riders can attest. The delay at Tampa was attributed by the War Department at Washington to a Spanish fleet. This your readers will remember. The truth is, the water-tanks of many of the ships were foul and even the Department above-mentioned did not dare to send troops to sea without water, though they have no hesitancy in sending them to battle without food, as I shall show. Having, by the help of God and the elements, arrived at Baguiri, they were rushed pell mell to the front with three-days' rations. Other commissary stores were ordered to follow, over roads that were bridle paths and over a country which is a thicket. These poor fellows were hurried to the front, most of them in clothing more suitable for Nova Zembla, and with an outfit sufficient for an Arctic expedition.

The fact that they were thrown into battle without their field-guns does not interest us medically; I merely mention it in passing. After the first three days they had to get along as best they could, sometimes with stores, oftener without. Here is a statement of two of Roosevelt's Rough Riders. I know the men—they are gentlemen, and God knows have proven themselves brave men, "as in suffering all who suffer nothing." They came today into this place to get ammunition for their machine guns from Admiral Sampson. I remarked that they looked a bit thin. They laughed. They had had, I found on questioning them, nothing to stay their stomachs but one cup of coffee that morning and a little wild fruit for two days, but they did not complain. After the terrible fighting on Friday, when they stopped at sundown, these same two men and many of their companions went to sleep after a supper consisting of a cup of hot water, which they had heated in order to get something into their empty stomachs. There was nothing for them to eat. This story applies not only to the Rough Riders but practically to all the troops. They were rushed forward, fighting every step of the way, anyhow, any way, and as Mr. Steppings Wright, the correspondent of the London *Graphic*, said to me, it was a merciful thing they had such an enemy as the Spaniards to fight; not that the latter did not fight and fight hard, but they fought only when they were compelled to do so, only when cornered.

In the three-days' fighting upward of 2000 of our troops were killed and wounded, and this time the unexpected did not happen, the surgeons were swamped—the boasted ambulance corps a thing like the wounded, of shreds and patches. In the first place, in many instances, the field-hospital requisitions had not arrived and the surgeons had nothing but first-aid-to-the-injured bandages, etc. Wounded men were left unattended for hours, while others had to be carried several miles before they reached what by apology was called a field hospital. Stretchers were as scarce as an honest reconcentrado, and mere medicines were conspicuous by their absence. This all sounds pretty bad but the statements are those of soldiers, officers, and correspondents.

I desire just here to state that for this disgraceful condition of things the Medical Department of the Army is

not responsible. Everything that human ingenuity could suggest, and intelligent scientific effort could direct had been done by the Surgeon-General, but the answer for all this bungling is not to be read, as the Germans say, "In the stars," but in the office of the Secretary of War. He who runs may read, and the hundreds of political appointments to staff positions and in the Commissary and Quartermaster Departments quite sufficiently explain the hideous lack of preparation and the absolutely insane manner in which this business here has been risked, and the consequent suffering entailed upon as brave and uncomplaining a lot of men as ever faced a foe. An instance, not medical, but still of interest, as illustrating how things were and are being done: It seems a small thing to the laity in New York to read that the cavalry have been sent to the front without their horses. Your wiseacre says, "They could not have used them anyway," but how about the men who were sent to an almost hand-to-hand fight with short, cavalry rifles, that have no bayonets. But the battle has been fought and a division hospital established at this place, Siboney, eight miles from the front. I was not an eye-witness to what I have above described. I now come to scenes which I have, I regret to say, witnessed. I do not exaggerate, and what I describe can be vouched for by every one who has been so distressfully unfortunate as to have seen them.

There are now about 300 wounded here and they are constantly arriving from the front. And how? Some limping painfully on improvised crutches, and all bedraggled and exhausted. Others, more seriously hurt, on the back of a stronger though, in many instances, sick or wounded companion, others still on horses or mules, sometimes two on one animal, which is lead by another soldier, for the riders have all they can do to hold on. Many are brought in by ambulances, however. Men came in and went out, or rather, were sent on board transports, without shoes, or coat, or blanket. One poor fellow, for instance, who was wounded in one leg, had been sent from the hospital to the landing-stage for shipment on a transport, and who had been for four hours in the broiling sun, had nothing in the world but an old worn, filthy shirt, and a pair of torn trousers. Of shoes, of course, he had none. He told me there was no one to give him anything, even if such necessities were there. There were dozens of such cases.

And the hospitals: As one in authority said, they are heart-breaking, with scores of men with wounds in every stage of neglect. This applies to those who have lately arrived from a long journey from the front (for the surgeons here are working till they drop) lying on cots, with dirty blankets under them, the passage between the wounded being covered with dirty straw. Flies are a perfect torture to the sick and wounded and there is no attempt made to protect them in any way. This condition of things, I state again, is not the fault of the surgical corps. The wounded and sick were poured in upon them before their supplies had arrived or before they had had time to utilize the materials at hand.

This fact will be appreciated when I tell you that the hospital outfit is on the "Relief" which arrived six days after the first big battle. The sight in these apologies for field hospitals is absolutely and entirely sickening and beyond words distressing. A friend told me that one of the chief surgeons, a friend of his, had at one time broken down and cried like a child at the condition of the men and the hospital which he was powerless to mitigate. I am thankful to say that things are rapidly being rectified, now that the "Relief" has arrived. She should have been here two weeks ago, and would have been were it not for the stupidity and contrariness of a War Department official. The commissary for the sick and wounded "would disgrace a camp of South-Sea Islanders," as an officer expressed it. The poor fellows will tell you, if questioned, for they never complain, that they have had nothing they could eat.

Well, so much for the hospitals here; the memory of their wretchedness will never be forgotten.

They have been sending the wounded and sick North on the different transports; a most excellent plan, but here again the absolutely unpreparedness of things has inflicted great and unnecessary suffering on the troops. This harbor is, in fact, no harbor at all. Most of the time there is a high surf running and the transporting of the wounded from the beach to the ships is only accomplished with great delay and much roughness, small boats entirely unfitted for the transportation of the wounded being used. Of steam-lighters, so urgently demanded by General Shafter, there are none; none for this purpose, at least. The men who are supposed to be ready to move or be moved, are sent to the landing-place to wait their turn to be taken to the ships and here they frequently remain hours and hours in the baking sun on the sand. It is indeed a pitiful sight. I saw to-day, any number of men, most of them more or less seriously wounded, and many of them unable to move, who cried like children when I asked if I could not do something for them. The reply most always was: "Get us on board that white ship (alluding to the "Relief"), please do, sir." I am thankful to say that now the "Relief" has gotten to work they are being taken aboard tenderly and properly cared for by the surgeons and nurses. As one poor fellow, who was terribly wounded said, "Oh, doctor, this is heavenly!"

As you know, the "Relief" is commanded by Dr. George H. Torney. He it was who fitted her out, and now directs her, and many a blessing he'll get from the soldiers and officers cared for on this ship. Our only fear is that there will be many more wounded than the "Relief" can hold. The truth is, we should have several of these hospital ships; the Government can well afford it. Whether those in Washington, who, as the Germans say, "run things from behind the green table," will, in their infinite wisdom see fit to provide such a practical blessing, while devoutly to be wished, is scarcely likely of fulfilment.

Officers from the front tell me that the condition of things along the line of battle is too horrible for words. The Spanish left their dead and wounded, many of them on the field, and the stench is something awful. Hundreds of their wounded must have died a lingering death where they fell.

The Spaniards, as you remember, did not mutilate the bodies of the Marines, as at first charged. They have not, however, respected the Red Cross, and have repeatedly fired upon the ambulances, upon wounded men on stretchers who were being carried behind the lines. It seems that sharpshooters, clad in the uniform of our soldiers, which they had stripped from the dead, were hidden in trees and, from that point of vantage, would pick off the wounded, and the hospital stewards and surgeons who were carrying them.

FRANK DONALDSON, M.D.

OUR PHILIPPINE LETTER.

GUNSHOT WOUNDS AS SEEN IN THE PHILIPPINES.

WITH ADMIRAL DEWEY'S SQUADRON, OFF MANILA, PHILIPPINE ISLANDS, June 22, 1898.

THE insurgents' headquarters being at Cavité, Aguinaldo has established a hospital in an old convent in which both his wounded and those of the captured Spaniards are treated. Considering that very great humanity on both sides has hitherto been an unknown quantity, the greatest praise should be given to the natives, not only for their treatment of captured sick and wounded, but also of their prisoners.

Two native doctors comprise the staff of this hospital, and for attendants they have several medical students who had studied in the hospitals at Manila. There are many reasons why wounds treated in this hospital should do badly. The building itself, situated in the center of Cavité and shut in on two sides, is a typical Spanish house as seen in the tropics. Thick walls of stone, with here and there a small window, keep the fierce heat of day from penetrating, but in its place it substitutes a dark, damp coolness with but little ventilation. When the hospital was filled with men who had been in the field for several weeks, having wounds discharging fetid pus, this heavy, foul air must have certainly affected the progress of healing. The depressing influence of heat, of defeat, and more especially the question at first if their lives were to be spared, are important factors in the cases among the Spaniards. It is also necessary to remember that the wet season is now here, and with it the usual fever which has complicated many of the cases. As regards food, medicine, and dressings, everything possible has been done, but all of these essentials have been limited. With so many prisoners to provide for, beside his own men, General Aguinaldo has only been able to furnish a coarse bill, with now and then a little beef and bread. Those of the wounded who had money were able to buy plenty of bananas and mangoes or a cheap wine. Dressings were at first very difficult to obtain, so that infected wounds got a good start.

A lack of surgical instruments among the doctors at the hospital was the opportunity that allowed some of the surgeons from the fleet to treat the more urgent cases, and to get a record of the remainder, consequently patients who were doing well were but superficially examined out of courtesy, and a desire not to interfere with previous treatment. The character of the bullet could only be judged from the wound of entrance, except in cases where extraction proved beyond any doubt, the majority of these being the Mauser, and several of caliber .45, probably the old Graus or Collonbaim.

Most of the men were wounded during the battle around Bakor, where more than 2000 Spaniards were repulsed in their endeavor to relieve some of their comrades besieged in a church near old Cavité. Aguinaldo placed the total number engaged in this battle at about 3500 or 4000, and claimed only 25 killed and 70 wounded, but as exact figures are hard to obtain these must be taken cautiously. The number of Spanish dead is not known, and their wounded seen in this hospital amounted to about 50. Without doubt many wounded escaped; still, making all allowances, the number disabled on both sides, for so many men engaged, was very small.

The amount of destruction that the modern rifle apparently is capable of is theoretically much greater than practical tests go to show. One naturally presumes that the greater range, velocity, and flatter trajectory, not to forget rapidity with which the bullets may be fired from these magazine rifles, would tend to cause many more wounded and killed than was the case with the old single-loader. No doubt that modern field tactics account for part of this discrepancy, and especially is this to be considered in the following cases, for nearly all the fighting between the Spaniards and insurgents, up to the present time has been by an extended skirmish line, in which the rebels, by a series of rushes, would quickly advance, sheltering themselves at every opportunity, until with a last desperate rush the Spanish position would be carried.

The following is a report of the principal cases of injury:

Gunshot Wounds of the Head and Neck.—

1. Of jaw. Bullet (Mauser) entered at inner edge of masseter muscle and lodged just back of parotid gland on the right side of face. Suppurated freely. Bullet removed. Had also a sloughing machete wound of right forearm, which produced a secondary hemorrhage that nearly exsanguinated him. Was treated by doctors in hospital with perchlorid of iron on cotton. Under ether the cotton was removed, wound cleaned of sloughs, and bleeding artery caught by forceps, but it was so much gone that forceps came off. Incision along course of radial proved the bleeding vessel to have been a muscular branch of that artery. Radial ligated above wound, and all bleeding ceased.

2. Of jaw. Native woman, shot by accident. Bullet entered just below lip in median line, producing a compound comminuted fracture of inferior maxilla, and then passed through submaxillary triangle to produce wound of exit at side of neck. A superficial cervical abscess formed with rigidity of the neck, and from the mouth protruded a piece of alveolar process with three teeth adherent, and much foul-smelling pus and saliva. Under ether Dr. Brownell removed all fragments of bone and sloughing tissue, opened the abscess, and passed a fillet of gauze from mouth out of wound in neck. Patient doing well, abscess nearly filled up, bone trying to unite in median line.

3. Of jaw. Compound comminuted fracture of inferior maxilla, splitting bone and lip down to mental process. Sloughs and granulations filling the wound. Under ether the sloughs and granulations and bone were trimmed off, and flaps freed and sutured. Operation by Dr. Broderick. Patient did remarkably well, and in ten days was able to talk a little and take semisolids.

4. Of jaw. Entire front of lower jaw carried away by fragment of shell, leaving a foul-smelling granulating wound filled with bits of bone, teeth and sloughs, extending nearly to hyoid bone. Under ether Dr. Brownell removed all bits of bone and slough, trimmed down flaps, and brought together with silver sutures. A secondary etherization was necessary to put in additional sutures to prevent flaps from tearing apart. At the end of ten days patient was doing well, and there was but little discharge of pus on the daily dressing.

5. Right temple. Attempt at suicide, but pistol was pointed too far forward. Bullet removed just beneath skin on forehead.

6. Parotid region. Mauser bullet entered middle of parotid gland on right side, and going beneath zygomatic arch entered orbit, destroying right eye, and producing a compound comminuted fracture of orbital plate and frontal bone. It passed directly through frontal sinus to exit in middle of forehead. Under ether, the right eye (what was left of it) was removed, wound-track cleansed and irrigated, and from parotid gland to orbit a heavy silk suture was passed for drainage, while a rubber tube was placed through wound of frontal sinus to orbit. Previous to this operation it had been necessary for me to remove the left arm at the middle of the humerus, because of a beginning gangrene from a compound communited fracture of elbow-joint. Amputation stump healed kindly, but the wound of the head suppurated freely, even with constant irrigation and dressing. At time of removal to Manila he was very weak and in a bad condition.

In addition there were five cases of superficial injury.

Gunshot Wounds of Chest.—

1. Left chest. Ball (Mauser) remains. Entered just above the heart, and a forming abscess over left scapula probably denotes its location at present.

2. Right chest. Hemoptysis and death.

3. Right chest. Ball remains (Mauser). Also muscle wound of left arm. No fracture.

4. Left chest. Ball remains (Mauser).

Gunshot Wounds of Abdomen.—

1. Through liver. Ball entered at seventh interspace, mammillary line, and came out at the back. Patient up and about June 15th, and both wounds healed.

2. Left gluteal fold, exit two inches on the right of the umbilicus (Mauser).

3. Through abdomen and descending colon (Mauser).

4. Crest of left ilium.

5. Left ilium.

6. Superficial wound of right side from bit of steel jacket of bullet about the size of a finger-nail. Its ragged edges tore a large hole in skin, just beneath the liver, and then it buried itself in muscle from which it was easily removed.

Gunshot Wounds of Upper Extremities.—

1. Right forearm, with compound fracture of ulna (Mauser). Did very well after it was put up in anterior and posterior splints with "window" for wound to be dressed.

2. Left arm. Bullet brushed across left breast producing a superficial wound. It then entered inner side of left arm, fracturing the humerus, and coming out at front of the arm. When first seen the wound was full of pus, but simple irrigation and putting up in splints, with daily packing of iodoform gauze, was able to save the arm. Patient doing well at time of transfer.

3. Right hand; superficial wound at dorsum, cutting the extensor tendons, and producing wrist-drop. Wound dressed, and hand placed on a straight palmar splint.

4. Right elbow, ball (Mauser) entering on outer side of arm above elbow, and after shattering joint, produced a large, sloughing wound of forearm, with great swelling and infiltration. Under ether the arm was amputated by Dr. Brownell at junction of lower and middle thirds. Amputation wound suppurated and partially sloughed, but at time of transfer he was doing well, with wound nearly closed.

5. Right elbow; ball tore across tip of olecranon process, shattering the bone, and producing a large, sloughing wound, but not opening the joint. Wound dressed and put up with internal angular splint.

6. Left arm; compound comminuted fracture of upper third of humerus, with free suppuration, and the arm badly swollen. Under ether Dr. Brownell amputated at shoulder-joint. Patient had severe shock after the operation, but soon rallied, and at time of transfer the wound was nearly healed.

Ten other wounds of the upper extremity, received for the greater part from Mauser bullets, were superficial in character, and the patients have made rapid recoveries.

Gunshot Wound of Lower Extremities.—

1. Compound comminuted fracture of femur (left) at trochanters. Attempt made to save leg, but having been badly put up, even if it had been a single fracture, it would not have healed. Under ether the thigh was amputated at joint by Dr. Brownell, and patient rallied well from operation. He died the next day (June 11). Examination of bone showed an extensive comminution (Mauser).

2. Right buttock; sinus explored under ether, and the ischium was found to have a cleanly cut perforation. No symptoms of injury to pelvic viscera. At the end of five days an abscess was indicated over buttock that discharged of itself, carrying a Mauser bullet with the pus. He had, also, a superficial wound of entrance and exit on the same leg from another bullet.

3. Head of tibia. Ball entered just above fibula, and crashing through cancellous tissue of head of tibia, split off a spiral fragment on inner side. An osteomyelitis suppurativa resulted, and a purulent synovitis followed, with swelling of leg and bogginess of knee-joint. Under ether the thigh was amputated at junction of middle and

lower third. When the anterior cut through the muscles was made, a pus-pocket was opened in the muscles where the purulent synovitis had extended under quadriceps tendon. This was cut out of flap, and operation finished according to usual methods. Suppuration occurred, but patient was doing well at time of transfer. Operation performed by Dr. Brownell.

4. Left thigh. Compound fracture. Had been placed in faulty position; this was corrected, and extension was applied. Wound (Mauser) leading to bone ran from upper and outer side of thigh to middle and inner side.

Eighteen superficial wounds of the lower extremity were also reported in addition to those above detailed. The patients have made good recoveries.

In the above cases the predominance of wounds of the extremities cannot fail to attract attention. Without doubt many of the killed received injuries to the head, abdomen, or chest. Still, this explanation will not answer for the discrepancy, and it seems rather to be due to the manner of fighting, in which every tree, bush, or rock furnished a means for protection to head and trunk. Arms and legs are more difficult to conceal, and several of the wounded told me that in that way they had been shot. This excess of gunshot wounds of the extremities I found to be true among the wounded Greeks, in the hospitals at Athens, when I visited them last summer just after their war with the Turks. The manner of fighting had been similar to that in the Philippines.

Another curious feature among the above cases is the ease with which a muscle in contraction, or any slight obstruction, will change the course of the new bullet. This was a common fact in regard to the old soft bullet, but experiments on the cadaver with the steel-jacketed bullet seemed to show a clean perforation of all tissues, including bone. This was only found to be true in one case as regards bone, all the others being fractured.

The scarcity of secondary hemorrhage is remarkable considering the number of suppurative wounds.

The amount of shock is not to be accurately estimated, because of the lapse of time before the men reached the hospital. After the operations, in which the patient was generally under an anesthetic an hour, it was a curiosity to us all to see the rapidity with which they would rally, and soon call for the inevitable cigarette. The pulse indicated considerable shock in most severe cases, but several of the men were better afterward than before.

In connection with the gunshot wounds there were several cases of troublesome machete wounds, because of the nasty sloughs that would occur. The machete is a short sword with a heavy back, and enters the tissues more by its weight than keenness, and in so doing bruises the tissues. There were twelve of these wounds altogether, involving, for the most part, the head and upper extremities.

The final results of all the cases here detailed will not be known, as most of the men were transferred to Manila on June 19–20th, under the Red-Cross flag, by the permission of Aguinaldo. The hospital contains at the present time only a few men down with fever and the insurgent wounded. Most all of those wounded in the lesser engagements during the month have been divided between three other hospitals, which the insurgents have in smaller villages.

In conclusion, the possibilities of the campaign of our troops show that even in this hot, moist climate severe suppurating wounds may heal kindly. What such wounds will do if properly handled from the first yet remains to be seen. That so many of the Spaniards had fever points to what we may expect among our soldiers.

DUDLEY N. CARPENTER, M.D.,
Assistant Surgeon, United States Navy, on board U. S. S. "Raleigh."

MEDICAL PROGRESS.

Thrombosis of the Mesenteric Veins.—KOESTER (*Deut. Med. Wochenschr.*, May 26, 1898) puts on record three cases of thrombosis of the mesenteric veins, a rare affection and one about which little has been written. The resulting gangrene in one case affected the large intestine and in the other two a part of the small intestine. The symptoms were similar to those of a case of embolism of the mesenteric artery, also recorded by Koester. All of the patients died. If operation was attempted it was seen to be hopeless as soon as the belly had been opened. By comparing the symptoms in these cases with those of the ten previously recorded by different writers it is possible to draw a fairly clear picture of the disease. The patient may be attacked suddenly in perfect health, or he may be recovering from some severe illness. There is invariably intense abdominal pain with vomiting and often stoppage of the bowels and collapse. The abdomen is extremely tender, and if the patient outlives the shock, tympanites follows. In a few instances there has been a bloody diarrhea. Death is not long delayed. Sometimes it comes in a few hours. In one case it was delayed for three days. At autopsy a bloody fluid will be found in the peritoneal cavity, thrombosis of a part or all of the mesenteric veins, bloody infiltration of the corresponding mesentery and intestine, or a gangrene of the latter, according to the duration of the trouble. In only two cases has the large intestine been the seat of the thrombosis.

One can only guess at the origin of the thrombosis. Sometimes the mucous membrane of the intestine has been found to be ulcerated; sometimes it has been intact. Some writers have said that the thrombosis is caused by a slowing of the portal circulation owing to existing cirrhosis of the liver or cancer of that organ; but if this is an adequate cause it is difficult to explain why it so infrequently occurs, while these hepatic troubles are so common.

The diagnosis is not to be made with absolute certainty during life. The affection can readily be confounded with acute ileus, or a perforative peritonitis, or even with an invagination, if a distinct tumor does not point clearly to the latter trouble. The most characteristic symptom is the accumulation in the peritoneal cavity of a bloody fluid in a short time, the symptoms above described being present, and malignant disease and tuberculosis being excluded.

The Medical News.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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Address the Editor: J. RIDDLE GOFFE, M.D.,
No. 111 Fifth Avenue (corner of 18th St.), New York.

Subscription Price, including postage in U. S. and Canada.

Per Annum in Advance	$4.00
Single Copies	.10
With The American Journal of the Medical Sciences, Per Annum	7.50

Subscriptions may begin at any date. The safest mode of remittance is by bank check or postal money order, drawn to the order of the undersigned. When neither is accessible, remittances may be made, at the risk of the publishers, by forwarding in *registered* letters.

LEA BROTHERS & CO.,
No. 111 Fifth Avenue (corner of 18th St.), New York,
and Nos. 706, 708 & 710 Sansom St., Philadelphia.

SATURDAY, AUGUST 6, 1898.

CRIMINAL INCOMPETENCY IN THE ARMY—PROMPT ACTION DEMANDED.

The startlingly brilliant events which have characterized the present war with Spain have provoked the comment that we, as a nation, are making history fast, and we have laid the flattering unction to our souls not only that we are making it fast but that we are writing it in letters which are large. It must not be forgotten, however, that the facts upon which the philosophy of history depend are frequently found in the foot-notes. The foot-notes which will ultimately determine the picture of this war are now rapidly coming in. First, the "Seneca," with its mortifying tale of wretchedness and incompetency; then the "Alamo," with its confirmation of all that the "Seneca" presaged, and finally the "Concho," which bears its testimony of reckless incompetency and seals the judgment of the Nation that the glory of our arms in battle has been sullied by incompetency due to political favoritism at the seat of government.

The sad record of these transports has called attention to the condition at the front, and we find that the story of the neglect of the sick and wounded does not begin with the log of these vessels, but, commencing with the fighting men in the trenches, who were illy supplied with even the plainest army rations, back to the dressing-stations and the field hospitals, all the way down to the permanent hospitals on the coast, we find the dark trail of incompetency, lack of organization, and absence of the commonest precautions against the casualties which attend a military invasion. In reviewing the events of this brief campaign, there appears to be an utter lack of administrative ability, and the conduct of affairs, instead of being characterized by military precision and discipline, shows a degree of disorder and confusion amounting almost to chaos. The responsibility for this seems to lie wholly at the door of him who placed a sick man in command of this campaign, and supported him with quartermasters and commissary officers who were unequal to their duties. Every one, both wounded and sick, as well as observing civilians and commanding officers, testify to the indomitable devotion to duty and capacity for work shown by the army surgeons in their efforts to care for the sick and wounded. In their emergency-chests, which the army surgeons themselves had sufficient foresight to insist should go with them everywhere, stimulants, antiseptics, first-aid dressings, and surgical instruments were at hand to enable them to do their surgical work and meet pressing emergencies. Chief-Surgeon Senn testifies to the fact that he personally operated in all the field hospitals and always found the essential antiseptics and dressing-material required in military practice. "At no time was there lack of stimulants or anesthetics." It was after the surgeons and the dressers had done their work that the shameful neglect began. Tents and blanket supplies were inadequate. It is true that many of the wounded soldiers arrived at the field hospitals stripped of much of their clothing which had not been replaced after passing through the hands of the field surgeons at the bandaging stations just back of the battle line, where the clothing was removed for the purpose of examining or treating wounds. The supply of extra clothing and blankets was quickly exhausted and many of the wounded soldiers were obliged to lie all night on the wet grass and water-soaked ground half-naked as they were.

That the medical arm of the service is not responsible for this condition of affairs is completely estab-

lished by the letter of Surgeon-General Sternberg which we publish in another column.

But such events must not be allowed to continue. The pressing duty of the hour is to determine wherein the responsibility rests and to correct with prompt and impartial hand the errors and mistakes which have made it possible for such things to occur. Crimination and recrimination between the various departments of the army will not suffice. Let it be understood at once by as stringent a mandate as the President can pen (for we must go behind the tin soldiers and ambitious politicians to some power that can be trusted) that what has happened is the last blunder that will be endured. Let the country have the assurance, by the appointment of men of experience to important positions of trust, that competency has taken the place of incompetency and that devotion to duty has supplanted self-interest and political preferment.

The Porto-Rican campaign gives promise of a bloodless and triumphal march to victory, but in spite of this fact and in the face of impending peace, in order to satisfy the clamor of volunteers and their friends for service at the front, General James F. Wade has been ordered to conduct a provisional division of fifteen regiments of infantry to Porto Rico, although there is no ground of military necessity or high political expediency to justify such a move. The only explanation is to be found in the desire of the Secretary of War to give the several States of the Nation representation in the field. If men are so anxious for military experience and transports are available for so large an army, let them be used in assisting our sorely afflicted men at Santiago, and thus permit the latter to be brought home and recuperated. If properly conducted, fresh troops can be landed and placed in garrison with comparatively little danger. The War Department would be fulfilling its mission better if it directed its attention to such details at the front, instead of keeping so watchful an eye on the political situation at the rear.

YELLOW FEVER IN THE ARMY. WHO IS RESPONSIBLE?

UPON the outbreak of hostilities it was distinctly announced by those most competent to judge that the great danger to our troops in Cuba did not reside in the Mauser bullet or the Spanish guns, but in the diseases which were endemic in the island, and especially yellow fever. It was recognized, however, that if the troops could be located upon the hills, with entire absence of communication or intercourse with the inhabitants of the towns, the danger of yellow fever would be reduced to a minimum. For the scene of a campaign which would be immune to yellow fever, the vicinity of Santiago afforded one of the most perfect battle grounds in all the tropics. The essentials of success in this particular are (1) high elevations, and (2) a complete quarantine against the towns. Weeks and months have been spent at the mobilizing camps in instilling the fact that these two principles constitute the A B C of prevention against yellow fever. The first essential was attained by bringing the campaign to a conclusion with the utmost despatch, so that the troops could be withdrawn at as early a period as possible into healthful camps upon the hills. The second principle, however, was violated with a degree of neglect and inattention that was little short of criminal.

Now that attention is withdrawn from the actual fighting and an analysis is being made of the conditions existing during those exciting days in the rear of the firing lines, it is discovered that sympathy for the reconcentrados entirely supplanted consideration for our own troops. Barriers of defense against the infected Cubans were broken down, and the hordes were allowed to spread the germs of disease throughout the entire army. It is asserted as a fact by Mr. H. L. Beach, an Associated Press correspondent, that he saw the army ambulances used to haul the sick and squalid refugees who were tramping through the mud from the front to the rear so that they might get food, these same ambulances also being used indiscriminately for transporting the sick and wounded from the dressing-stations and field hospitals. But worst of all is the fact that the commissary wagons were constantly going from Siboney loaded with supplies and returning loaded with refugees. It is a fact that no yellow fever appeared in the army until the lines were opened to these people from Santiago.

From another source comes the startling assertion that the yellow-fever epidemic in the army is chargeable directly to the Red-Cross officials. Mr. William Gray of Washington, microscopist of the Army

Medical Museum, on duty aboard the hospital-ship "Relief," is reported in the New York *Sun* as asserting that the Red-Cross people instead of confining themselves to distributing food among the Cubans, as they had been instructed, opened army hospitals under the charge of the Red-Cross surgeons in the Cuban houses or huts at Siboney, and it was among the troops exposed in these Red-Cross hospitals that yellow fever made its appearance. The responsibility for this unfortunate condition seems to lie with the commanding officers or their medical advisers. The hordes of refugees should have been regarded as a pestilence, and compelled at the point of the bayonet to keep within quarantine bounds. That the first orders to burn Siboney should have been disregarded, and native houses within its limits taken as hospitals, indicates a lack of discipline for which some one should be held to strict account.

TYPHOID FEVER IN CAMP.

The prevalence of typhoid fever in the various mobilizing camps is a source of great concern. It is likewise a serious reflection upon the sanitary authorities who are responsible for the health of these camps. In the whole list of common diseases there is not one which is so thoroughly understood as typhoid fever. The cause of the disease, the channels of its communication, and the means of prevention are so intimately known that its prevalence among a body of men is at once a proof that some one has blundered. This is not a pleasant reflection when we consider that typhoid fever has found its way into every National camp of instruction, and, what is more, has gone with the troops to Cuba and at the present time is responsible for more deaths among the soldiers in front of Santiago than any other single disease. Only two channels of infection need to be watched, *viz.*, the water-supply and the milk, and more especially the former. At Camp Alger, located near the very seat of our Government at Washington, infection occurred early and its march has been constant and rapid until deaths have been reported very frequently. The camp at Jacksonville is passing through a similar experience, as are those at Tampa and Miami. Camp Thomas, at Chickamauga, a great National Park, affording every facility for a perfect camp, has not escaped the contagion. The action of the Government in abandoning these camps and seeking new ones, even at great expense and trouble, is a credit to its humanity, but its should never have been necessary.

A circular letter and brochure, recently issued by the National Relief Committee, though not intended for that purpose, is a severe arraignment of the sanitary authorities. As it says, it may be clearly held to-day that the sacrifice of men, either at home or abroad through the ravages of water-borne diseases is, as a rule, not only discreditable, but is unnecessary and, therefore, unjustifiable. Not only is this committee insisting that all water used by soldiers should be boiled, but is making it easy to provide the soldier also with water that has been submitted to aeration afterward, thus rendering it safe and potable, as well as grateful to the palate.

ECHOES AND NEWS.

The King of Spain Ill.—Special despatches from Madrid report the little king, Alphonso XIII., ill with a mild attack of measles.

The American Electro-Therapeutic Association. — The Eighth Annual Meeting of this Association will be held September 13, 14, and 15, 1898, at Buffalo, New York. Dr. Charles R. Dickson is president of the association, and Dr. John Gerin of Auburn, New York, secretary.

American Climatological Association.—The fifteenth annual meeting of this association will be held at the Maplewood Hotel, near Bethlehem, N. H., on August 31 and September 1, 1898. President, Dr. E. O. Otis of Boston; Secretary, Dr. Guy Hinsdale, of Philadelphia.

A Second Hospital Ship for the Army.—The steamship "Missouri" has been purchased by the Government, and will be immediately equipped as an army hospital ship as a companion to the "Relief." She will be in charge of Major Wm. H. Arthur, Surgeon United States Volunteers, who has been appointed chief-surgeon.

The Disgrace of the "Seneca" Surpassed.—The account of the cruise of the transport "Concho" from Santiago to New York presents a scene of horror which surpasses the mortifying description of the voyage of the "Seneca" and calls for decisive action. An impartial and searching official investigation should be ordered at once.

New York Summer Corps of Physicians.—The New York City Board of Health has appointed the usual summer corps of thirty-eight physicians. The greater part of these were promoted from the corps of school inspectors, and the balance from the civil eligible list. They will receive a salary of $100 per month, and the term of service will expire on September 10th.

Dr. Skinner Shot.—Dr. Erasmus D. Skinner of North

Hempstead, L. I., was aroused from his bed Wednesday night, July 27th, shortly before midnight, and shot by a stranger who pretended he wanted the doctor to call on a sick woman. It is thought by the physicians in attendance that Dr. Skinner will recover, nothwithstanding the fact that he is 60 years old.

A Soldier Dies of Home Sickness.—In a recent dispatch to the Adjutant-General of the army, Gen. Shafter states that a private in the Second Massachusetts Volunteer Infantry had died of nostalgia, or home-sickness. It is stated that during the recent Civil War there were hundreds of deaths from this cause, but this is the first to be reported during the present campaign.

The Tropical Climate Inimical to the Use of the Fluoroscope.—Major Torney, the surgeon in charge of the hospital ship "Relief," reports that the static X-ray plant, installed by the Government on the ship, could not be used in the tropics owing to the atmospheric conditions. The only X-ray plant that had been of any service was the one presented to the ship by the General Electric Company.

The Mississippi Valley Medical Association.—The twenty-fourth annual meeting of this association will be held at Nashville, Tenn., October 11, 12, 13, and 14, 1898, under the presidency of Dr. John Young Brown of St. Louis. Dr. Henry E. Tuley of Louisville, Ky., is the secretary. The annual address on medicine will be delivered by Dr. James T. Whittaker of Cincinnati, and that on surgery by Dr. George Ben. Johnson of Richmond, Va.

The Sanitation of Porto Rico.—General Wilson has been appointed by General Miles Governor-General of Porto Rico with headquarters at Ponce. His first official act was to organize a sanitary corps, and at the head of this he has placed the surgeon-in-chief of his staff, Dr. John McGaw Woodbury of New York. No better selection could have been made. Major Woodbury's reputation for promptness and thoroughness insures the future excellent sanitation of the island.

Hospital Reports from Santiago. — The latest returns from Santiago announce that there are 4280 sick in the hospitals, about one-fourth of the entire command. Of these more than 3000 are suffering from typhoid, malarial, and yellow fever. The last-mentioned disease is of mild type and most of the victims recover. The greatest mortality occurs among the cases of typhoid and malarial fever. About 500 or 600 new cases occur daily and an equal number of convalescents are being discharged.

Appointments in the Marine Hospital Service.—The Board of Medical Officers of the United States Marine Hospital Service recently convened in Washington for the examination of candidates for appointment as assistant-surgeons in the Marine Hospital Service has submitted its report. Twenty-four physicians appeared for examination, of whom five were successful in attaining the required average, and are eligible for appointment. There are at present two vacancies and the two men receiving the highest average will be recommended to the President for immediate appointment.

All Transports Must Have Army Surgeons.—By order of Surgeon-General Sternberg every army transport ship hereafter will have assigned to it an assistant-surgeon of the army, and must carry hospital stores. It is said that the reports concerning the character of the accommodations and the food furnished the sick and the wounded on board the transports "Olivette" and "Seneca" during their recent trips from Cuba have occasioned this new regulation. Formerly doctors from civil life have been assigned to transports upon which the wounded and sick were carried. The new order of the Surgeon-General relieves them from further duty.

Dr. Wood Military Governor of Santiago.—Dr. Leonard Wood, who, at the beginning of President McKinley's term of service, went to Washington as his family physician, has recently been promoted to be Brigadier-General and Military Governor of Santiago. At the beginning of the war, Dr. Wood enlisted as a volunteer, and went to the front as Colonel of the Rough Riders. It is a source of congratulation to the city of Santiago, as well as to our own Government, that a man possessing such eminent qualifications as a sanitarian, should be appointed to the responsibility of Military Governor at this time.

Investigation of the "Seneca" Incident Surpressed.—It is currently reported that the investigation demanded by Surgeon-General Sternberg into the responsibility for the shameful cruise of the transport "Seneca" is being surpressed. It is certainly to be hoped that this is not true. Such an outcome would be most unfortunate and assuredly a mistake. In a very short time representatives of foreign nations who were on the "Seneca" will reach home, their mouths will be unsealed and then the whole story will come back to this country, and the last state of the parties responsible for any suppression of the truth will be worse than if they had frankly allowed all the facts to be known.

The Marine Hospital Service and National Quarantine.—The advantage of having the quarantine of the country under National control so that the rules may be uniform, and prompt and vigorous measures enforced at all points, is being constantly illustrated during the present war. The fact that the Marine Hospital Service is a department of the General Government has enabled Surgeon-General Wyman to cooperate readily with the Army and Navy Departments in his efforts to prevent the invasion of yellow fever from Cuba. At the present time, there is imminent danger of yellow fever being brought to this country and making its entrance at various ports, from Portsmouth, N. H., where the Spanish prisoners are quartered, throughout the whole extent of the Atlantic and Gulf coast, as far as Galveston, Tex. By the cordial cooperation of the Army, the Navy, and the Marine Hospital Service, in establishing uniform quarantine, the dreaded disease has not, as yet, gained foothold upon our territory.

Photo. May, 1898. Meynen, Phila.

WILLIAM PEPPER, M.D., LL.D.

OBITUARY.

DR. WILLIAM PEPPER.

Dr. William Pepper of Philadelphia died July 28th at Pleasanton, Alameda County, California, from acute heart failure, the direct result of overwork.

William Pepper, formerly Provost of the University of Pennsylvania and one of the most eminent physicians of the country, was born in Philadelphia on August 21, 1843. He was graduated from the University of Pennsylvania in the class of 1862, and from its Medical Department two years later. Dr. Pepper entered at once the practice of medicine and gained distinguished success in his profession. He was Lecturer on Morbid Anatomy in the university from 1868 to 1870, and on Clinical Medicine from 1870 to 1876, and professor of the latter subject from 1876 to 1887, when he was elected to the Chair of the Theory and Practice of Medicine, to succeed Dr. Alfred Stillé. He continued to hold that chair until his death.

In January, 1881, he was elected Provost of the University. Under his administration the institution developed along modern lines as never before. In 1881 the

Wharton School of Finance and Economy was founded; in 1883 a department of veterinary medicine was added; the foundation of a school of biology and the establishment of a department of physical culture followed in 1884; the school of American history and a department of archeology and paleontology were added in 1891, and the department of hygiene was founded in 1892. These rapid advances were largely due to Dr. Pepper's personal efforts.

Dr. Pepper had one of the largest practices in the country, and he continued to attend to it in addition to guiding and molding the general policy of the university and the development of the numerous constituent schools. He also regularly continued his literary work. He founded *The Medical Times*, and was its editor in 1870 and 1871. His most important work was the editing of "A System of Medicine by American Authors," published in 1885-1886. He was a constant contributor to medical journals, and published many books and pamphlets on medical and scientific subjects.

Dr. Pepper was medical director of the Centennial Exposition in 1876, and for his services received the decoration of Knight Commander of the Order of St. Olaf from the King of Sweden. He was largely instrumental in founding the Pennsylvania Museum and School of Industrial Art. He was a Fellow of the College of Physicians, a member of the American Philosophical Society, President of the American Climatological Society in 1886, and held the same office in the Association of American Physicians in 1891, and was elected first-president of the Pan-American Medical Congress, which met in Washington in 1893. In 1881 he received the degree of LL.D. from Lafayette, and again from Princeton in 1888.

Feeling that his multifarious duties were too great a burden he resigned the provostship of the university at the commencement of 1894. At that time the facts were brought out that not only had Dr. Pepper suffered a loss in his income as a physician by the time given to the university, but also that he had declined to accept any salary as provost. Moreover, he had at that time made contributions to the university amounting to from $20,000 to $30,000 a year. He accompanied his letter of resignation with a gift to the university of $50,000 toward a fund for the extension of the university hospital. During his term as provost the value of the university property rose from $1,000,000 to $5,000,000; its teaching force increased from 88 to 268, and the number of students from 980 to 2180.

CORRESPONDENCE.

THE MEDICAL DEPARTMENT OF THE ARMY —LETTER FROM GEN. STERNBERG.

To the Editor of the MEDICAL NEWS.

DEAR SIR: I regret that the pressure of official duties makes it impossible for me at present to make a full reply to your recent letter of enquiry, or to the strictures published by a leading medical journal, condemning the Medical Department of the Army, without a hearing, upon the reports of newspaper correspondents. I will, however, take time to state a few facts.

The number of medical officers allowed by law is inadequate in times of peace. The total number allowed is one hundred and ninety-two (192). There are at present thirteen (13) vacancies. The administration of the Surgeon-General's Office and the Army Medical Museum requires six (6). Eleven (11) are on duty at Medical Supply Depots and as Chief Surgeons of Military Departments. One (1) is at the Soldier's Home; fifty-six (56) at General Hospitals, on Hospital Ships, and at garrisoned posts. Four (4) have been disabled during the war by sickness. Five (5) are on duty as Chief Surgeons of Army Corps. This leaves ninety-six (96) medical officers available for duty with troops in the field. Of these, thirty-five (35) have been appointed Brigade Surgeons of Volunteers and are distributed among the various Army Corps.

This deficiency in regular medical officers has made it necessary to employ nearly three hundred (300) contract surgeons, and more are being employed every day. Most of these doctors from civil life are doing good service, and many of them are thoroughly well-equipped physicians and surgeons with ample hospital experience; but it has been impossible to make a careful selection owing to the great pressure of business in the Surgeon-General's Office, and the urgency has been so great that it has not been practicable to have Examining Boards to pass upon their qualifications.

General Shafter's army at Tampa was thoroughly well supplied with the necessary medicines, dressings, etc., for field service, but owing to insufficient transportation he left behind at Tampa his reserve medical supplies and Ambulance Corps. Every one who has read the papers knows about the difficulties encountered in landing supplies at Siboney. As is usual under such circumstances, the fighting men with their guns and the rations necessary for their subsistence were first landed and hurried to the front. The "Relief," loaded to her utmost capacity with medical supplies, arrived at Siboney four days after the fight at El Caney. That she was not able to get there sooner was a great disappointment to me, but was no fault of the Medical Department. I asked for a hospital ship in good time, but there was unavoidable delay in securing a suitable vessel and in preparing her for service.

It has not been the expectation of the Medical Department that every wounded man would immediately receive the attention of a surgeon. No modern army makes provision for so large a number of medical officers as this would require. But attached to our Army there is a corps of non-combatants known as the Hospital Corps, which is the organized and authorized Red-Cross Corps of the Army. At the outbreak of the war we had eight hundred Hospital Corps men in service. At present there are more than 4000. These men wear a brassard upon the left arm bearing the Red Cross of the Geneva Convention. We have done our best to instruct them in giving first aid to the wounded, and in a majority of cases a first-aid dressing properly applied by one of

these men is all that is required. All of the surgeons who have come from the front have testified to the remarkable results attained from the prompt application of aseptic dressings by our Hospital Corps men and by the soldiers themselves, or their comrades. The proper application of the dressings contained in the first-aid packet, which is carried by every soldier, is, under existing regulations, a matter in which every enlisted man has special instruction. For some time past this instruction has been given first by our medical officers to the company officers, and by them to the enlisted men.

My position with reference to the inadvisability of sending female nurses to our camps of instruction, or with our armies in the field, has given great offense to some members of the Red-Cross Society, and it is evident that the unjust attacks which have been made upon me, and upon the Medical Department of the Army result largely from the stand I have taken in this matter. I have gladly accepted the assistance offered us in the way of delicacies for the sick, etc., and we have now a large number of trained female nurses on duty at our general hospitals where they are giving great satisfaction, but I see no reason to change my views with reference to the sending of female nurses with our troops in the field. They are an incumbrance to an army mobilized for active operations. This objection does not apply to the sending of immune female nurses for service in our yellow-fever hospitals near Santiago, and I have already sent nearly one hundred.

The first-aid dressing is to be put on at or near the firing line, and the men have usually to be transported to the field hospitals on litters. In this age of aseptic and conservative surgery, comparatively little operating is required, and our regular force is ample to attend to this. Moreover, we have men selected for their experience and skill to decide whether operations are necessary, and to perform them. I have never objected to the surgeons and ambulances of the Red-Cross Society going to the field for the purpose of rendering any necessary assistance, but, in my opinion, they should be independent as regards transportation, and should not call upon the Government for assistance in getting to the field of operations. If there has been any failure to get necessary supplies to Cuba it has been because of the difficulty of securing adequate transportation, and of landing supplies through the surf; but we have been constantly importuned to transport Red-Cross agents and female nurses to the front. I am informed that many of these so-called nurses had never received any special training to fit them for the duties they were so eager to undertake. The National Red-Cross Society should have been entirely independent of Government transportation if it expected to fulfil its proper function of affording aid to the wounded of both armies, in accordance with the terms of the Geneva Convention.

As regards the "Seneca," I am informed by Major Torney, in charge of the hospital ship "Relief," that he transferred forty-two (42) wounded men, most of whom were entirely able to take care of themselves, from the "Relief" to the "Seneca" because at that time it was expected that our troops would storm Santiago, and that a large number of wounded would be sent to the hospital ship for treatment. For the same reason a certain number of convalescents were sent from the shore hospital. Two acting-assistant surgeons were sent on board with a supply of the most necessary medicines and dressings. The wounded who were sent by the "Seneca" were nearly all able to walk and take care of themselves, and required comparatively little attention. The statement that no medical supplies were sent with them is false. No doubt there was some deficiency, and some discomfort upon this overcrowded ship, but the Medical Department is in no way responsible.

Finally, I would say that when the medical officers now at the front return home I expect to have full information with reference to the efficiency of the medical service in the vicinity of Santiago, and in the meantime I hope that the profession at large will not be so ready to draw inferences unfavorable to the Medical Department of the Army on the basis of reports published in the daily papers as the editor of the *Medical Record* has been.

Very respectfully,

GEO. M. STERNBERG,

Surgeon-General, United States Army.

WASHINGTON, D. C., August 2, 1898.

OUR FOREIGN LETTER.

[From Our Special Correspondent.]

KOCH ON THE SPREAD OF THE BUBONIC PLAGUE—AN ENDEMIC FOCUS OF THE DISEASE IN UGANDA ON THE SHORES OF VICTORIA NYANZA—NO FURTHER DANGER TO CIVILIZATION FROM PLAGUES—LEYDEN ON HEART-NERVES—THE HEART AS AN INDEPENDENT MUSCULAR AGENT.

BERLIN, July 27, 1898.

PROFESSOR KOCH'S talk before the Berlin branch of the *Deutsche-Gesellschaft für offentliche Gesundheitspflege* (German Society for the Care of Public Health) was the medical feature of the week here, and was attended by some 500 medical men. It was followed by a banquet in honor of the guest of the evening. Truly the Germans know how to honor their distinguished medical men, and do it with most commendable cordiality, without requiring them to have shuffled off this mortal coil before the honors come.

Some decenniums ago, Koch said, the plague seemed to have lost the epidemicity which had so fearfully characterized it in history. We heard of isolated, or even groups of cases in the distant East, but the scourge seemed to have lost its power to spread beyond the limited area where unhygienic surroundings had fostered it into passing virulence. But about five years ago came the rude awakening from this false security into which Europe had been lulled. There came the news of its ravages in India, then it appeared in Persia, finally in 1894 it was reported on the Chinese coast, and as Hong Kong, in whose neighborhood it appeared, is in intimate commercial relations with the civilized world there arose the dread of an invasion. Those who knew something of the history of

this terrible scourge of Europe and Asia in the past feared for the present. Then two years ago it appeared in Bombay, and some cases got to Suez, and even two cases turned up in London, so that fears were not ungrounded.

Study has shown that it is the old plague, and has enabled us to know its characters. Its pathologic anatomy is now known, and Kitasato and Yersin have found its bacterial cause. The study of the disease in rats has at once substantiated the identity of the modern with the antique plague, and confirmed the old tradition with regard to its fatality in these animals. The disease would really seem to be a rat, not a human, disease, attacking these animals, usually so intensely resistent to all disease, on the slightest exposure, and raging among them with the greatest virulence, only attacking men at times when special circumstances have made the virus specially infective.

We have found that, knowing the exact bacteriology of the disease, sanitary regulations will be effective in protecting other countries from invasion. The main interest, then, has centered in the discovery of the places where epidemics originate, for it is clear that there is not a rebirth of the contagium each time that the plague arouses attention, but that it is almost certainly endemic in certain localities, successive cases of it occurring more or less sporadically, and finally leading under favorable circumstances to an epidemic.

Some of the places where plague is endemic are well-known. There is evidently a persistent focus of the disease some place in Mesopotamia between the Tigris and Euphrates Rivers from which some of the earliest epidemics of the plague in history came, but which would seem not to have gone out, even down to our day. The Indian epidemics of the plague would seem to have come from the country lying near the Himalayas, especially in the western part of the Chinese Empire in Thibet. A third plague-spot, in the literal sense of the word, evidently exists south of Mecca on the Arabian shores of the Red Sea from which, through the medium of the Mohammedan pilgrimages, a number of epidemics of plague have been called into existence.

While in German East Africa, Koch found that a fourth focus of plague, a locality in which, according to the natives and missionaries, the disease has been endemic for so long as there is any tradition, exists on the northern shores of Lake Victoria Nyanza in Uganda. His attention was called to the fact by the occurrence in Kisiba, the most northwesterly district of German East Africa, of certain suspicious cases. At his request an army medical man investigated the disease directly in the infected district, and sent the specimens of a number of cases to Koch, on the coast three-month's journey away. The specimens were in excellent condition when they arrived, and Koch came to the absolute conclusion that genuine plague was endemic at least in this part of Central Africa.

From here he thinks that certain epidemics have gone down the valley of the Nile, and so invaded Europe. The otherwise inexplicable epidemic of the disease at Tripoli in the Seventies probably had its origin in some such way as this. This plague-spot is in the progress of civilization gradually becoming not so segregated as it was. Caravans often come from this district, and the English in British East Africa are engaged in building a railroad from the coast into this Victoria Nyanza district of Uganda, which will be completed in two years, and will still further add to the danger of the importation of the disease into Europe.

There is really no need for alarm, however, for knowing the exact bacteriology of the disease as we do, we can be perfectly confident that our sanitary precautions will suffice to prevent invasion. This definite knowledge of the localities from which invasion may be expected will prevent us from being taken by surprise, and modern medical science can look with justifiable self-congratulation upon the advance in medicine which has enabled us to absolutely rule the dread disease which so often devastated Europe.

At a recent meeting of the Society for Internal Medicine, Professor Leyden discussed the question of heart-nerves, and rather surprised his audience, I think, by showing that he has adopted the physiologic opinion which has been gaining ground recently, that the nerve-fibers demonstrable in the heart so plentifully are not motor but sensory, and that the heart-muscle is itself essentially motor, containing in its vital qualities the essential principle of its own activity, and not depending either for initiative or continuance of its action upon its intrinsic nervous mechanism.

This opinion of the automatism of heart-action rests on some very good reasons drawn especially from embryology. The heart beats in the embryo long before any nerve-mechanism or fibers can be demonstrated in it, before any nerve substances has been really differentiated autogenetically. Engelmann, the successor of Du Bois Reymond in the Chair of Physiology here at Berlin, has especially insisted on this. His and Romberg have pointed out that the ganglionic character of the heart-nerves associates them naturally with sensory nerves, and that it is to this class, not the motor-nerves, that the heart-nerves all belong. Hofmann has shown that the removal of the whole septum of the frog's heart with all the ganglia of Remak that it contains does not disturb the heart's contractility or persistent contraction at all. Krehl has even isolated certain parts of the heart in which no ganglia could be demonstrated, and so long as they represented definite anatomic parts of the heart-muscle they could be made to continue their pulsations for hours.

His teaches that the conduction of the contractile wave in the heart is through muscle-fibers not nerve-fibers, and Engelmann has demonstrated by accurate measurements of the time it takes the pulsatile wave of contraction to pass from the sinus through the auricle to the ventricle that this wave is 300 times too slow to come through motor nerves, and so must find its way through the muscle-fibers.

Professor Leyden demonstrated before the Society the results of section of the vagus with irritation, not of the peripheral end, but of the proximal end. The well-known resultant momentary stoppage and slowing of the heart,

which occurs when the proximal as well as the peripheral cut end is irritated, Professor Leyden took to indicate the sensory function of the vagus; the usual explanation that the nervous irritation is communicated to the other vagus in the nervous centers, and then carried down as an inhibitory impulse, seeming far-fetched. In the frog's heart with both vagi cut, irritation of the proximal end still slows the organ.

The acceptance of these views as to the physiologic function of heart-nerves, and the automatism of the heart-muscle, would lead to a change in much of the present clinical consideration of cardiac conditions. Most of the terms used depend on the supposed stimulant and inhibitory functions of nerves. They are not likely to be adopted at present, yet their ever-increasing claims for attention on the part of clinicians is evident. There are some other views of Professor Leyden's on nervous questions in which he was as distinctly unique in his position as this, and yet in which time has shown that he was in advance of his time, and upholding views that have since become the universal teaching in medicine.

TRANSACTIONS OF FOREIGN SOCIETIES

London.

TREATMENT OF CHRONIC BRIGHT'S DISEASE—ACUTE DILATATION OF THE HEART IN RHEUMATIC FEVER —SAGITTAL FONTANELLE AT BIRTH.

AT a meeting of the Royal Medical and Chirurgical Society, June 28th, EWART read a paper on the "Treatment of Chronic Bright's Disease." He pointed out that the methods of treatment hitherto adopted in chronic Bright's disease (tubal nephritis) have not cured the trouble, and often have not removed the symptoms. Still, there are patients who recover spontaneously, even when the disease is of long standing, and this leads to the hope that a suitable treatment may yet be found, inasmuch as the lesions are not necessarily fatally destructive of the structure of the kidney. An uncomplicated tubal nephritis may be looked upon as a long-standing catarrh. Its symptoms are: (1) Dropsy, (2) anemia, (3) oliguria, and (4) cachexia, often concealed by the persistent edema. Edema may be considered Nature's protection against fatal intoxication. In itself edema is harmful by choking the tissues and impeding lymphatic circulation. It hinders nutrition both locally and generally. Its usual treatment by rest in bed impairs the vital functions. Tubal nephritis may, therefore, properly be looked upon as a lymphatic disease, and treated accordingly. The edema should be made to collect in the lower extremities by slanting the bed, and the trunk and upper extremities thus freed from the edema, should be still further improved by massage. Acupuncture or incision and drainage, if faithfully persisted in, will afford relief to the edematous tissues of the whole body, will remove from the system a large amount of contaminated fluid, and will grant the kidney a physiological rest by opening up another exit for the ingested fluids. A surcharge of the blood with alimentary and effete products being thus avoided, a varied diet can be given, to the great benefit of the patient. A free, lymphatic circulation is an essential part of the treatment of the kidney in nephritis. Southey's tubes or small incisions into dilated lymphatics, preferably at the back of the ankles, are the means employed to drain the edema. Every antiseptic precaution should be employed, and the wound kept covered with a cloth moistened with a mild antiseptic solution. The surrounding skin should be smeared with vaselin to prevent the bad effects of constant soaking. While the flow continues free a liberal diet may be given. If it tends to dry up, it may be necessary to resort to a milk diet for a few days until it is again well established. In a recent case the patient will soon be able to leave his bed. The usual methods of medication directed to strengthening the heart will succeed better when the edema has been relieved.

LEES read a paper on "Acute Dilatation of the Heart in Rheumatic Fever," a condition which he claimed is a common thing, even when arthritis and pyrexia are slight in amount, and apart from endocarditis and pericarditis. In support of these propositions he presented tracings of the cardiac dulness made from patients under his care. The accuracy of estimates of cardiac dulness obtained by percussion has been repeatedly confirmed by autopsies. The acute cardiac dilatation in rheumatism is analogous to that seen in influenza, and in both diseases it is the result of the poisonous action of a microbic toxin on the muscle of the heart.

A number of tracings of the hearts of children suffering from rheumatism and chorea were also presented. They showed also, without exception, an increase in the cardiac area in the beginning of the disease, with a decrease as recovery took place. If relapse sets in, there may be a return of the cardiac enlargement. The value of this acute dilatation in the diagnosis of arthritis of doubtful nature was pointed out. the speaker holding that many times symptoms are set down to adherent pericardium in recurrent cases, which are really due to this cardiac increase.

At the Obstetrical Society, July 6th, LEA read a paper on the "Sagittal Fontanelle in the Heads of Children at Birth." Several abnormal fontanelles have been described: the nasofrontal, cerebellar, mediofrontal, and sagittal, but the last named is of especial interest to obstetricians. From the examination of 500 consecutive infants at birth he was able to draw some pretty general conclusions. The fontanelle is situated 2 cm. (4/5 inches) in front of the posterior fontanelle, on a transverse line drawn between the two parietal eminences. Its average length is 1.5 cm., and width 1 cm. It may form a space as large as the anterior fontanelle, and may be present on one or both sides. He found it bilateral in 17 cases, and unilateral in 5 cases. Taking them together, the fontanelle was present in 4.4 per cent. of the cases. The membranous space may be surrounded by well-developed bony edges, or the posterior portion of the parietal bone may be wanting. This fontanelle has a medico-legal as well as obstetrical interest.

HERMAN said that the presence of this fontanelle might mislead one accustomed to rely on the digital examina-

tion of the sutures and fontanelles for the diagnosis of the fetal position. This would not, however, trouble anyone who used abdominal palpation to determine the child's position. A second point is that the presence of the fontanelle, if correctly recognized, might induce one to apply forceps in a case where perforation would otherwise be performed, since it would show that ossification was backward.

SPENCER doubted the so frequent occurrence of a sagittal fontanelle. He thought that perhaps a fissure had in some instances been mistaken for a fontanelle. He had examined the skulls of 300 newborn infants, but had in no case seen a sagittal opening which was at all comparable to the anterior fontanelle.

Edinburgh.

ACUTE AND CHRONIC RHEUMATIC MYOSITIS—THE OPERATIVE TREATMENT OF ENLARGED PROSTATE —THE RELATIVE POSITIONS OF THE PROMONTORY AND THE SYMPHYSIS PUBIS.

MILLER read a paper, entitled "Rheumatic Myositis in its Acute and Chronic Form," before the Medico-Chirurgical Society, June 1st. The affection is often mistaken for articular rheumatism, especially if the muscle involved overlies a joint. The symptoms are pain, swelling, fever, and constitutional disturbance. The pain is situated at the origin and insertion of the muscle, and is increased by its contraction, though not by all of its motions. The effusion into the skin and subcutaneous tissue may cause a crackling on palpation, which is especially well marked in pleurodynia. Acute attacks subside in a few days. In the chronic form of the disease the stiffness is more or less constant, and there is muscular wasting. Points to be noted are: (1) The pain comes on in advance of wet weather; (2) the pain is often associated with a falling barometer, but may occur with a rising barometer if the wind is from the north or east; (3) the pain may subside when the rain has fairly set in; (4) mists cause an attack, as do (5) east winds without mist; (6) pain may be conspicuously absent in cold weather if the air be dry. This is most noticeable in the Arctic regions.

Internally the alkalies are good, as are also the salicylates. Iodid of potash and actea racemosa are also valuable, the latter in lumbago and stiff neck. The best local treatment is the application of dry heat. Rubefacients are also allowed, but blisters are bad for the reason that the pain they cause keeps the limb still, and stiffness of the joint is likely to follow. Massage to give the best results should be both passive and active. Voluntary motions, especially those which so stretch the muscles as to cause pain, are better than any passive motions. Excessive movements are to be forbidden. A dry, warm climate is the best for these chronic cases.

THOMSON read a paper on the "Operative Treatment of Enlarged Prostate." The surgeon has to deal usually with the critical cases of this trouble when the patient has failed in his usual catheterization. The old treatment was to tie in a catheter, or to perform a careful catheterization two or three times a day. More recent methods of relief are perineal and suprapubic drainage, but these are at best not cures. The operations available for a cure are: (1) Destruction of the prostatic tissue by a galvanocautery. Bottini, the inventor of this method of treatment, has performed the operation eighty times with only two deaths, but owing to the uncertainty of such blind cauterization the method has not been widely adopted. (2) Suprapubic prostatectomy is an ideal operation in those cases in which the middle lobe of the prostate is especially enlarged. (3) Double castration had been performed by the reader four times, and in every case the result was gratifying. In all cases there was, in addition to the local improvement, an improvement in the general health of the patient. (4) Vasectomy, an operation performed in one case by Thomson, but without affording relief. The conclusions drawn were that prostatectomy is to be performed in all suitable cases, as it is the one effective and comparatively safe operation. In other and unsuitable cases double castration is indicated.

At a meeting of the Obstetrical Society, June 22d, BARBOUR spoke of the position of the promontory as shown by frozen sections made in eighteen different subjects. He found a great variation in both the anatomic and obstetric conjugates, the former varying from 3.8 to 5.6 inches, and the latter from 3.4 to 5.3 inches. The perpendicular height of the promontory above the symphysis varied from 2.4 to 5 inches. In other words, in three-fourths of the cases the whole of the sacrum and a small portion of the coccyx were above the level of the symphysis. The angle between a line from the promontory to the symphysis and a horizontal line from the symphysis varied from 33° to 65°.

SOCIETY PROCEEDINGS.

AMERICAN OTOLOGICAL SOCIETY.

Thirty-first Annual Meeting, Held at New London, Conn., July 19, 1898.

DR. ARTHUR MATHEWSON of Brooklyn in the Chair.

REPORT OF A CASE OF DOUBLE MASTOID DISEASE PRESENTING SYMPTOMS OF AN INTRACRANIAL COMPLICATION; OPERATION; RECOVERY,

was the title of the first paper, read by DR. GORHAM BACON of New York. He said the double mastoiditis followed a severe cold in the head and presented symptoms that led to the expectation of finding sinus thrombosis. The mastoid process on each side was opened and cleansed of granulation material, etc. Neither sinus was opened, as notwithstanding the anterior walls of each were affected, it could not be demonstrated that there was a thrombus. Examination of the pus showed the presence of pneumococci and staphylococci. The patient made a good recovery. The speaker opposed the practice of puncturing the sinus because he does not believe it determines the presence or absence of the thrombus, and because it increases the danger of introducing infection into a healthy sinus.

THREE CASES OF SUPPURATION OF THE LABYRINTH, TWO OF THEM PRODUCING ABSCESSES OF THE CEREBELLUM,

was read by DR. J. ORNE GREEN of Boston. He exhibited the temporal bones in which the labyrinthine structures had been more or less destroyed.

BLOOD-CLOT IN MASTOID OPERATIONS,

was the title of the next paper, by DR. C. J. BLAKE of Boston. He suggested that in cases of acute suppurative disease of the mastoid, after thorough evacuation of the mastoid contents the cavity should be allowed to fill with fresh blood and the wound in the skin be apposed without sutures. This had been done in a number of his cases and the shortest period between operation and complete healing was only four days, while the average period in the successful cases was ten days. The same method was applied to a number of chronic suppurative cases with very good results. The method has the advantage that even if not successful and the part becomes infected the wound can be opened at the first dressing and can then be packed as usual without any damage having been done.

Dr. Blake also read a paper, entitled

CONTROL OF HEMORRHAGE FROM THE SINUS AND MENINGEAL VESSELS DURING MASTOID OPERATION BY MEANS OF INTRACRANIAL PRESSURE.

He described the method which he had adopted some time ago for the control of hemorrhage from the lateral sinus. When by accident or design he opens the sinus and hemorrhage occurs he does not pack the wound but by the use of the spoon curette he proceeds rapidly to increase the size of the bony opening by cutting away its edges, so that the pressure from within the cranium brings the brain substance into the opening and forces the inner wall of the vessel to plug its own lumen. This method possesses advantages over packing in that it is easily and quickly done, promptly arrests bleeding, and causes no delay in finishing the operation on the mastoid.

THE FUNCTIONAL EXAMINATION OF THE EAR, WITH DEMONSTRATION OF BEZOLD'S CONTINUOUS-TONE SERIES,

was contributed by DR. HERMAN KNAPP of New York. He exhibited Bezold's continuous-tone series, ranging from a low fork of sixteen vibrations a second to the higher note of the whistle, about forty vibrations. He also reviewed the methods of functional examination of hearing and laid stress upon its importance, especially with reference to deaf-mutes. Regarding the latter, he cited Bezold's work to show that much can be gained in the education of these people by definitely measuring their hearing rests and shaping the plan of education in accordance with the results. Bezold has proved that the aptitude of deaf-mutes to learn depends upon the tone-rests preserved in their organs of hearing.

TREPHINING OF THE STAPEDIAL FOOT-PLATE FOR OTITIS MEDIA SCLEROSA,

was read by DR. H. A. ALDERTON of Brooklyn. He reported an interesting case in which after all other treatment had been tried and the crura of the stapes had been broken off in an effort to remove this bone he trephined the foot-plate. From his experience he concluded that nothing permanent is gained by the operation, and that while nothing disastrous is to be looked for as the result of it he would counsel against it.

The next paper,

A REPORT OF CASES OF OTOMYCOSIS TREATED BY INSUFFLATION OF BORACIC ACID AND OXID OF ZINC,

was read by DR. SAMUEL THEOBALD of Baltimore. He stated that seventeen years ago, in the *American Journal of Otology*, he had first called attention to this method which he has since used with uniformly good results. He thinks that treatment of such cases by the use of alcohol should be abandoned, as it is not a suitable agent to pour into an inflamed and painful ear, and must be used for a long period of time, whereas, in the method suggested but two or three applications are necessary.

THE SEQUELÆ OF MIDDLE-EAR SUPPURATION, WITH A REPORT OF CASES,

was read by DR. E. B. DENCH of New York. He urged the necessity for removing all the diseased bone in every case of suppurative otitis media in order to protect the patient from infection. He showed that in some cases in which the drainage is free the danger of infection of the brain substance or membranes is less than when the escape of pus is not free from the external auditory canal, although as long as the middle-ear is the seat of inflammatory trouble extension to the cranial cavity through the bony walls is always a possibility.

DOES TYMPANOTOMY AND REMOVAL OF THE INCUS ARREST PROGRESSIVE HARDNESS OF HEARING?

was the title of a paper by DR. C. H. BURNETT of Philadelphia. He said that this question is answered in the affirmative, and sixty-one cases in which the operation has been performed have been reported. In some of these cases the disease has not only been arrested, but the hearing improved, and he thought the time has come not only to make use of the operation in those cases where deafness is advanced to a great degree but to treat the patients while the disease is in its earlier stages and thus avoid greater deafness.

AMERICAN OPHTHALMOLOGICAL SOCIETY.

Thirty-fourth Annual Meeting, Held at New London, Conn., July 20 and 21, 1898.

DR. GEORGE C. HARLAN of Philadelphia in the Chair.

The first paper, entitled

WHY THE PROPORTION OF BLIND IN THE COUNTRY IS GREATER THAN IN LARGE CITIES,

was read by DR. LUCIEN HOWE of Buffalo. He said that in the twenty-five largest cities of the United States the proportion of the blind is, with two exceptions, smaller than in the States in which these cities are situated, or taking all the cities of more than 50,000 inhabitants together about thirty-three per cent. less blind are found in

them than the average for the entire country. When the different factors in the production of blindness are examined, whether congenital or acquired, or, under the latter class, whether due to traumatism, general disease, or to local disease, these factors are all practically the same, or are made equal in city and country, with one exception, namely, ophthalmia of infancy.

A rather extended inquiry concerning the habitual practice of physicians in country almhouses, in hospitals and elsewhere in the State of New York indicates that more attention is given to guarding against ophthalmia of infancy in the cities than in the country. The tendency to the habitual neglect of prophylaxis tends to make a rapid difference in the distribution of the blind, estimated at possibly 14 to 1. It is at least the most apparent cause of this difference and probably accounts for the greater part of it. It follows from this apparently warrantable conclusion that if as great care were taken in general throughout the country as is given on the average in the cities to prophylaxis the number of blind in the United States would be decreased in a single generation by several thousands.

SOME UNUSUAL TUMORS OF THE EYE AND ORBIT

was the title of the next paper, read by DR. CHARLES STEDMAN BULL of New York. He reported one case of sarcoma, which was supposed to be due to an injury of the eye received at some previous time, and a second case in which the microscopic examination showed the appearance of tubercles, but in which the clinical history of tuberculosis was negative.

DR. E. FRIDENBERG of New York then read a paper on

OSTEOMA OF THE ORBIT WITH ENOPHTHALMUS.

The two features of interest in this case were, first, the position of the tumor, which was located much more toward the temporal aspect of the orbit than usual, the mass of the osteoma being about at the center of the upper orbital margin, and, secondly, the position of the eye, which was crowded backward into the orbit and slightly downward; in other words, there was enophthalmus instead of the customary exophthalmus. The tumor with the anterior wall of the sinus was chiseled away and the patient made a good recovery, though the eye remains still slightly lower than its fellow. Vision of 22/100 was improved to 20/50 by the use of glasses, the Javal ophthalmometer showing the presence of 8D astigmatism, which was corrected by +4.Cyl. ax. 90°○-4.Cyl. ax. 180°.

ABSCESS INVOLVING THE FRONTAL SINUS, WITH DESTRUCTION OF THE VAULT OF THE ORBIT AND DEPRESSION OF THE EYEBALL

was the subject of a paper by DR. C. F. CLARK of Columbus. This abscess seemed to occur as the result of traumatism, the patient having received a blow in the face about a year previously, and having suffered more or less constantly from headaches and other symptoms which might be attributed to abscess in the sinus. The bone had been eroded to such an extent that the brain cavity was invaded, and the depression of the eye was sufficient to porduce a hyperphoria of the opposite side equal to 5½°. The patient did well after operation, but the wound has not thoroughly healed, probably because of the presence of some sequestra. During the year before she came for treatment she would occasionally have attacks of pain followed by discharge of mucus and pus from the nose and mouth and she noticed at such times that the size of the swelling of the orbit diminished. Pressure over the swelling met with such firm resistance that it was at first suspected that the condition was produced by an osteosarcoma.

A LARGE TUMOR OF THE ORBIT (FIBROSARCOMA) OF TWENTY-THREE-YEARS' STANDING; REMOVAL,

was reported by DR. F. M. WILSON of Bridgeport, Conn. He exhibited the specimen, which was of immense size for an orbital tumor. The patient had had the power of opening the lids but could not close them over the tumor except by taking hold of the free border of the upper lid and pulling it out. The tumor had existed for a remarkably long time and there were conflicting opinions as to the advisability of operation. Up to the present time it appears to have been a success. Although the eye was so displaced that the cornea was 1¼ inches in front of the orbit, motility of the iris and some vision has been retained.

A CASE OF LIPOMA OF THE ORBIT

was reported by DR. EMIL GRUENING of New York. It occurred in a young man, was lobulated, about the size of a lima bean, and microscopic examination showed nothing but fat-cells. The author stated that most tumors of this class which have been reported were subconjunctival tumors.

The next paper, entitled

THE TREATMENT OF ENTROPION OF THE LOWER LID WITH CAUSTIC POTASH,

was read by DR. SAMUEL THEOBALD of Baltimore. He said that in applying this method the aim should be to produce an eschar 3 to 4 mm. wide, parallel with the lid margin and extending the whole length of the tarsus. The action of the caustic should not be allowed to approach nearer the edge of the lid than 1½ to 2 mm. When the requisite effect has been produced the caustic action should be checked by the application of vinegar diluted with an equal quantity of water, or a solution of acetic acid of about the same strength. The eschar soon begins to contract and the lid, which up to this time has been held in an everted position, no longer shows an inclination to turn in. It is seldom necessary to repeat the operation, but this can be done if necessary. The treatment is especially applicable to senile entropion, but useful also in other varieties. Better results, it was thought, could be obtained by the use of the caustic than by the knife and no other anesthesia is necessary than the local application, on cotton, of cocain.

LYMPHOMA OF THE LIDS

was the title of the next paper, which was read by DR. MYLES STANDISH of Boston. He reported a lymphomatous growth in the lower lid close to, but not involving, the lachrymal sac. The administration of arsenic had resulted in its cure.

A CASE OF SPINDLE-CELL SARCOMA INVOLVING THE CONJUNCTIVA AND CORNEA; REMOVAL OF THE GROWTH WITHOUT IMPAIRMENT OF SIGHT,

was reported by Dr. S. B. St. John of Hartford. The patient was a man seventy-two years of age who had lost the right eye twelve years previously as the result of traumatism. The growth appeared upon the left eye and grew in 2½ months from the size of a pin-head to that of a large pea. It sprang from the conjunctiva, was movable with that tissue, and overlapped the cornea. It was removed much after the fashion of that employed in a pterygium operation.

CONJUNCTIVAL MELANOSARCOMA INVOLVING THE CORNEA

was reported by Drs. John Green and A. E. Ewing of St. Louis. The tumor was a true melanosarcoma, involving the cornea to such an extent, and was of such a size, that it became necessary to enucleate the eye.

Drs. Green and Ewing also reported a case of

HYPOPION KERATITIS AND BREAK IN DESCEMET'S MEMBRANE,

in which, preceding perforation, fluorescin was passed through the ulcer into the anterior chamber. The hypopion, 5 mm. in height, occurred as a sequence of a traumatic ulcer of the cornea. The treatment which Dr. Ewing followed with good results was the free use of hydrogen-peroxid solution of normal strength, applied on a little mop to the surface of the ulcer and held there, and the application renewed half a dozen times until there was a cessation of the ebulition. On making this application bubbles of gas would appear in the anterior chamber, but the gas was rapidly absorbed and in a few hours nothing remained of it. Fluorescin produced its characteristic reaction. The hydrogen peroxid seemed to have the effect of breaking up the hypopion mass and producing the good results that occurred. The conclusions drawn by the essayist were that one source of hypopion keratitis is through a direct break in Descemet's membrane, by exudation from the iris, or, possibly, from the epithelium of Descemet's membrane.

A case of interstitial keratitis, congenital in origin, was reported by Dr. H. F. Hansell of Philadelphia. The patient was first seen when only thirty-six hours old, and presented these symptoms: A thin, watery discharge from the eyes, lids slightly swollen and bluish-red in color, and conjunctivæ smooth, but the ocular portion distended from the fornix to the limbus of the cornea by an almost transparent effusion. The cornea showed on inspection a gray infiltration of the deep layers, consisting of fine points that tended to become confluent, most dense over the pupil, without vascularity or loss of epithelium. The child was poorly nourished, probably because of the fact that the mother, though ordinarily a healthy woman, had been in bad health throughout her pregnancy. There was no history of specific disease. The child was given tonics, and at the end of six weeks there remained only a slight opacity of the cornea. The local treatment consisted of applications of mydriatics. A similar case was referred to, reported by Barnacheff, in which the cornea became entirely clear.

The next paper, on

A NEW TREATMENT OF ULCERS AND OTHER INFECTIOUS DISEASES OF THE EYE BY CASSAREEP,

was read by Dr. S. D. Risley of Philadelphia.

This preparation is made from the juice of the black cassava, and is used in the form of a ten-per-cent. ointment. It is applied freely between the lids, and the eye subjected to massage to distribute it, and in the corneal cases, the protecting bandage applied. It causes no irritation, and rapidly brings about improvement.

The first paper read during the afternoon session was by Dr. J. P. Worrell of Terra Haute, Ind., entitled

SPONTANEOUS EXPULSION OF A FOREIGN BODY FROM THE ANTERIOR CHAMBER.

The patient was a boy who had received an injury of the right eye while exploding a gun-cap by striking it with a hammer. After the inflammation had cleared up a small piece of bright metal could be seen on the inner surface of the cornea. The patient declined operation for its removal, and some days later appeared with the statement that "feeling something scratching the eye, he rubbed it with a bit of cotton, and removed, with some secretion, a small piece of bright copper." No inflammatory trouble followed.

SOME OF THE EARLIER SYMPTOMS OF SENILE CATARACT

was the title of the next paper, read by Dr. W. F. Mittendorf of New York. The essayist had carefully observed the last 508 cases of incipient senile cataract which had occurred in his practice in order to determine the exact location of the first changes in the transparency of the lens. Of these, 106 were central and 402 peripheral, and of the latter the starting-point of the striæ was found in the upper periphery in 13 cases only, in the outer periphery in 47, in the general pheriphery, 48, and in the greatest number, 286 cases, in the lower and inner quadrant. Admitting that cataractous changes do not depend upon senility alone, but more particularly upon the nutrition of the lens, Dr. Mittendorf offered as a possible reason for the great prevalence of opacities in the lower inner quadrant the theory that there is a constant accommodation for small objects, especially in the reading by artificial light, requiring a more or less forced convergence and a downward look, during which the pressure upon the surrounding tissues is an impediment to the nutrition of this particular portion of the lens.

THE OPERATIONS FOR SECONDARY CATARACT

was read by Dr. H. Knapp of New York. He reported a very interesting case of secondary cataract operations. The primary operation for removal of the cataract was without special interest. The capsule becoming cloudy and necessitating a secondary operation, it was needled in the ordinary way. The immediate result was good, but two days later reaction occurred, and a severe, acute glaucoma set in. An iridectomy was at once attempted, but it was found impossible to catch

hold of the iris, so the operation was abandoned. The patient was relieved, however, of all pain and discomfort as a result of the paracentesis, and remained so for four days, when the trouble again set in. A second attempt at iridectomy was made, and this time successfully. The relief was permanent. Dr. Knapp then presented a tabulated report of 70 cases of secondary cataract operated upon since October, 1897. Sight was improved in 63 instances, remained the same in 6, and was almost lost in 1. Two cases besides the one quoted above were complicated by glaucoma, one of them being relieved by myotics and the other by an iridectomy.

Considering the advisability of operating in subjects having vision not below 20/70, the author said it must depend upon the case, but that ordinarily he believed one should attempt to give the patient the best sight his eye is capable of, especially as the secondary operation is safe. He considered discission the proper operation, and laid down as a rule of paramount importance, "Cut, don't tear." As the region of the wound made in the primary extraction is the weak point in these eyes, he considered it advisable to avoid that region as much as possible in the secondary operation, and to make a T-shaped incision in the capsule, the horizontal arm of the T being situated below the linear scar.

DELAYED UNION AFTER CATARACT EXTRACTION

was the title of a paper by DR. GEORGE C. HARLAN of Philadelphia. He reported two instances of delayed union after cataract operations, in one of which union took place some where between the tenth and seventeenth days, and in the other at the end of 20 days. By a review of the literature he had found 26 similar cases in which the delay had lasted from 5 to 20 days. In 20 of these cases no cause could be given for the wounds having remained open. He stated that such cases seem to require no special treatment other than the application of atropin and a slight pressure-bandage, together with treatment of any complications which may arise.

SECOND DAY—JULY 21ST.

The first paper, entitled

PROTARGOL IN THE ANTISEPTIC PREPARATION OF THE CONJUNCTIVA PRIOR TO CUTTING OPERATIONS ON THE EYEBALL,

was read by DR. B. E. FRYER of Kansas City, Mo. He uses a two-per-cent. solution of protargal as an antiseptic, and finds it preferable to solutions of mercuric bichlorid, etc. It is destructive to all organisms and is not irritating.

BUPHTHALMIA, AN INTERESTING SERIES OF CASES OCCURRING IN THE SAME FAMILY,

was read by DR. WALTER B. JOHNSON of Paterson, N. J. Three children in one family were found buphthalmic within the first few years of life. Ophthalmic examinations were not satisfactory. Two of the children were operated upon in Naples, and the third by the speaker. In every case the progress of the disease was arrested. The mother's eyes were normal, but the father thought he had never seen out of one eye, in which a disintegrated calcareous lens prevented a fundus examination.

A CONTRIBUTION TO THE PATHOLOGY OF THE EYE AND ITS APPENDAGES

was read by DR. G. E. DE SCHWEINITZ of Philadelphia. He reported the following cases:

CASE I.—Primary carcinoma of the caruncle. A small growth entirely replacing the right caruncle, about the size of an ordinary pea, which had existed for a number of years. Microscopic examination proved it to be carcinomatous. So far as known there has been no recurrence.

CASE II.—Prelachrymal growth with the histologic characters of tubercle. A small tumor anterior to the lachrymal sac was discovered while probing the tear-duct. It was easily removed, and on examination showed the appearances of tubercle, although no tubercle bacilli could be found.

CASE III.—Angioma of the lachrymal gland extending to the apex of the orbit; removal, with preservation of the globe; functions of the eyeball and of the external ocular muscles, with the exception of the levator, which was involved in the growth. This tumor, which is exceedingly rare, consisted of an angiomatous growth involving the lachrymal gland, and extended deep into the orbit. It was probably congenital. In front of the ear, on the same side, there was a small cavernous angioma about one and one-half inches in length, and one inch in width, but not communicating with the growth of the lid.

The next paper, entitled

REMARKS ON CASES OF HIGH MYOPIA; TREATMENT OF ONE CASE BY REMOVAL OF THE CRYSTALLINE LENS,

was read by DR. H. D. NOYES of New York. He said that the interesting features of this case were the early occurrence of converging squint, the rapid development of myopia between the sixth and eighth year, the removal of the lens produced a change of 16D, and with it an improvement of vision to double the previous condition; binocular vision was not secured by the refractive changes, and diplopia was never observed.

CONTRIBUTION TO THE OPERATIVE TREATMENT OF HIGH MYOPIA, WITH REPORT OF AN ADDITIONAL CASE,

was read by DR. W. H. WILMER of Washington. The operation in the case reported decreased the myopia by 22.5D., and the vision was double what it had been before operating. In regard to the mode of operation, the author preferred a slight discission, making a very small opening in the anterior capsule, followed by extraction within six days. As to the amount of myopia which offers the best operative result, he considered the ideal case to be the one in which two or three diopters of myopia would remain after the operation. According to his experience, this would mean a myopia of twenty-five diopters.

THE PATHOLOGY OF EXPERIMENTAL QUININ AMBLYOPIA

was read by DR. WARD A. HOLDEN of New York. His

experiments were made with the aid of the newer stains for nerve-tissues, and he exhibited drawings showing the changes that exist at various stages of the quinin-poisoning. The first changes were shown in the breaking down of the ganglionic cell bodies and a deposition of myalin-like substance in the nerve-fibers. This appeared within three days after administration of toxic doses. From that time until the seventeenth day more ganglion cells were destroyed and at that time changes in the optic nerve, consisting of a breaking down of the medullary sheaths of the fibers, were noticed. By the forty-second day the ganglion cells and the nerve-fiber layer had almost entirely disappeared and the degeneration could be traced up to the external geniculate body and pulvinar. No signs of degeneration could be found elsewhere in the brain or cord.

TWO CASES OF PREMATURE DELIVERY TO PRESERVE SIGHT

was read by Dr. A. E. Adams of Newburg, N. Y. He reported two cases of albuminuric neuroretinitis occurring in pregnant women, with vision reduced to a very low point. Shortly after premature delivery the vision showed marked improvement and the author concluded that if abortion is ever justifiable it is in these cases, especially as the uremic condition of the blood is dangerous to the life of the fetus as well as a menace to the mother.

IMPLANTATION OF SPONGE IN THE ORBIT AFTER ENUCLEATION

was the title of a paper by Dr. S. D. Risley of Philadelphia. In the case reported a fragment of surgeon's sponge, carefully sterilized, was pared down to a size just sufficient to loosely fill the cavity left by the removal of the ball and to permit the suturing of the conjunctiva and the subjunctival tissue over it without undue tension. The design was to furnish a framework for the deposition of connective tissue in the orbit and thus avoid the concaved socket which follows enucleation, and always permits the accumulation of tears and mucus behind the artificial eye. After the operation the appearance was much the same as that presented after the insertion of a glass globe, as in Mule's operation. Two or three months is required to complete the process of absorption of the sponge and the deposition of new tissue.

Dr. C. J. Kipp of Newark, N. J., then exhibited a pair of chalazion forceps, one blade of which was solid while the other contained a slit, so that when this blade is placed over the conjunctival surface of the chalazeon the latter may be incised through the slit and its contents squeezed out by pressure.

The following were elected to membership: Drs. J. W. Ingalls of Brooklyn, Anton Coe of Washington, J. H. Claiborne and F. N. Lewis of New York, J. T. Carpenter, Jr., James Thorington, W. C. Posey, C. L. Veasy, A. G. Thomson, and T. B. Schneideman of Philadelphia, and W. L. Wood of Portland, Oregon.

The officers elected for the ensuing year were the following: President, O. F. Wadsworth of Boston; vice-president, Charles Stedman Bull of New York; corresponding secretary, J. S. Prout of Brooklyn; recording secretary and treasurer, S. B. St. John of Hartford. New London, Conn., was chosen as the next place of meeting.

REVIEWS.

The Peritoneum. By Byron Robinson, M.D. Part I. Histology and Physiology. Illustrated Chicago: The W. T. Keene Co.

The author presents in this volume the results of his original investigations on the histology and physiology of the peritoneum. The histologic work is enormous in extent, and covers experiments made upon various animals, and a minute study of the tissue in man and lower animals. In his conclusions as to the purpose of the subperitoneal tissue, the author states his belief that the diaphragm is the characteristic muscle of mammalian life, in which we think he will find himself at variance with some other observers of note. He has found that the central tendon absorbs as well in the dead animal as in the living, and therefore doubts the so-called "vital" process of endothelial cells, The author brings out clearly that it is through the lymphatics and not through the blood-vessels that absorption takes place in the subperitoneal tissue. Numberless other points that deal with the histology of the peritoneum are brought out, but lack of space prevents the exhaustive review of them which they deserve.

In his study of the physiology of the peritoneum, Dr. Robinson found, as did Adler and Meltzer, that fluids are absorbed from the peritoneum after death. He points out that the areas of active absorption are the most dangerous zones of peritonitis, which is of itself a life-saving inflammatory process; that the peritoneum heals easily and readily; that the peritoneum is inherent with power to resist trauma and infection; that the visceral layer is more sensitive than the parietal and that through many ages of evolution the pelvic, appendicular and large intestinal peritoneal coverings have become more resistant to infectious germs than other regions.

The book is an interesting one and represents an immense amount of toil and perseverance. As an original study, it will command attention and it deserves it. We regret that we can not review it more extensively. A large bibliography is appended. The book is only fairly printed and the proof-reading is not good.

Die Technik der Speciellen Therapie. Von Dr. F. Gumprecht, Privat-docent in Jena. Jena: Gustav Fischer, 1898.

For the practitioner who is at sea in regard to a therapeutic procedure which he would like to try, and for the student who wishes to learn how to carry out such measures this book fills a peculiar place. The procedures carried out for curative purposes in all parts of the body are described in detail, even to the minutest particular. The dangers and complications of each measure are also clearly pointed out. Among the procedures described are intubation, the passing of esophageal sounds, gastric lavage, massage, enemata, thora-

centesis, abdominal puncture, lumbar puncture, catheterization, venesection, transfusion and vaccination. But a few of the details of the book have been chosen in order to convey a notion of the vast field it covers. It is unique and useful, and we should like to see it rendered into English.

DIABETES MELLITUS AND ITS TREATMENT. By R. T. WILLIAMSON, M.D. (Lond.), M.R.C.P., Medical Registrar, Manchester Royal Infirmary. Illustrated. New York: The Macmillan Co., 1898.

THE study of diabetes which formed the basis of the author's discovery of the discoloration of methylene blue by blood taken from a diabetic subject, have made his name well known in connection with this disease. A contribution from his pen in the form of a monograph upon diabetes is bound to be interesting. In the work before us we find a more thorough consideration of the subject than has yet appeared in the English language.

The author, aware of the lack of uniformity of pathologic findings in persons dead of diabetes, devotes but a short chapter to the various theories that are accepted in different parts of the medical world as to the pathologic basis of the disease. The views of Kaufmann, Pavy, Ebstein, Leegen, and Burge are given. The relations between lesions in the pancreas and in the medulla oblongata and a glycosuria are discussed in minute detail, the author holding that these lesions represent complications rather than etiologic power. The chapters devoted to symptomatology and complications are particularly full and thorough. The treatment of the disease is excellently handled, and closes the work in a thoroughly practical manner. The bibliography attached to each chapter and an appendix on diabetic dietetics add value to a work which in completeness and didactic worth is unexcelled. The book-making is excellent.

THE SURGICAL COMPLICATIONS AND SEQUELS OF TYPHOID FEVER. By WILLIAM W. KEEN, M.D., LL.D., Professor of the Principles of Surgery and of Clinical Surgery in the Jefferson Medical College, Philadelphia. Philadelphia: W. B. Saunders, 1898.

THE author has given us a very unique monograph and pioneer in its field, based upon 1700 cases of typhoid complications largely from his own experience and those recorded in literature within the last fifty years. Following the introduction and a short discourse on the pathology of typhoid fever, the book proper opens in Chapter III. with "Typhoid Gangrene," the modified Shattuck lecture for 1896. The closing chapter on "Ocular Complications" is contributed by Dr. George E. de Schweinitz. Appended is the "Taver Lecture," by the author, on "The Surgical Complications and Sequelæ of the Continued Fevers."

The author repeatedly reports many a case as of doubtful origin when it is not confirmed by the demonstration of typhoid bacilli, and particularly those cases antedating the discovery of Eberth's bacillus. Such an array of cases, so critically considered, is well worthy the careful study of the physician and surgeon. To both alike it will open up a new field in the diagnosis of many heretofore neglected complications following in the wake of typhoid fever. The surgeon will find encouragement in the author's conclusions as to the propriety of operating in cases of biliary and intestinal perforations. This work will at all times be authoritative on this subject.

THE RETROSPECT OF MEDICINE. Edited by JAMES BRAITHWAITE, Obstetric Physician and Surgeon to Leed's General Infirmary, etc. Vol. CXVI. London: Simpkin, Marshall, Hamilton, Kent, & Co., Ltd., 1898.

IT is scarcely necessary to do more than to announce the present volume of Dr. Braithwaite's famous "Retrospect of Medicine." The present one is fully up to its predecessors and is complete in its various divisions. Little of importance has been omitted, and the progress of the six months with which the volume deals is fully told.

STUDIES FROM THE DEPARTMENT OF PATHOLOGY OF THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

THIS is a collection of reprints of articles and papers representing the work done during the past year in the laboratory of the College of Physicians and Surgeons. Most of the articles have appeared in the current medical press. Among those of particular interest are: "A Contribution to the Study of Acute Ascending Paralysis," by Drs. Pearce Bailey and James Ewing; a paper on the "Morphological and Biological Examination of Exudates in Cases of Chronic Urethritis," by Dr. Henry Heiman; "Bacterial and Allied Diseases as Applied to the Clinical Diagnosis of Typhoid Fever," by Dr. John S. Ely, and "The Lymphatic Constitution in Its Relation to Some Forms of Sudden Death," by Dr. James Ewing. It is to be hoped that the Director of the Pathological Institute will more frequently submit the work of the laboratory to the public.

THERAPEUTIC HINTS.

The Treatment of Cancer by Application of Arsenious Acid may be rendered painless by adding to the acid an equal amount of orthoform.

For Nausea and Vomiting after Anesthesia.—Saturate a towel with fresh, strong cider-vinegar, and hold or suspend it a few inches above the patient's face. Begin the treatment as soon as the anesthetic is discontinued, and continue it for several hours. Not only is nausea thus prevented, but thirst is also relieved, and the patient is refreshed by inhalation of the vinegar. No ill effects can follow.

For Metrorrhagia.—

℞	Ext. cannabis indicæ	℥ ss
	Ext. opii	gr. 1⅔
	Tinct. capsici	℥ ss
	Rum	℥ i
	Syr. acaciæ	℥ iv.

M. Sig. A tablespoonful every hour until the flow ceases.

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXXIII. NEW YORK, SATURDAY, AUGUST 13, 1898. NO. 7.

ORIGINAL ARTICLES.

WHAT THE PEOPLE OF IOWA EAT.*

BY J. FRED. CLARK, M.D.,
OF FAIRFIELD, IOWA.

A MEDICAL student at graduation knows the dose of potassium iodid or of sodium salicylate and something of the conditions indicating their use as remedies, but when in practice, the doctor's prescription is written, and the patient just before leaving his office asks: "Does it make any difference what I eat?" the young physician is usually at a loss for an answer. His teaching on this point has been meager and his ideas are confused. He doubtless prescribes "a light and easily digestible diet." Again, when detained in the country, the doctor is fed at several meals on fried pork, fried potatoes, heavy bread, and coffee boiled several hours, and before leaving is asked by the man of the house for a little medicine for "stomach trouble," the physician is apt, if a thinker, to see small chance for a few grains of pepsin or creosote to cope with such cooked messes as this farmer must three times a day do battle with. These questions, the prescribing of a proper diet in health and disease and the overcoming of a quite prevalent poor cookery, daily confront the country doctor, and would seem of sufficient importance to be worthy the consideration of this learned Society.

Instruction in dietetics is lacking in our schools, and the advice in our reference-books is, as a rule, inadequate. This is necessarily so because little attention has been given to the subject in the United States until within the last decade. Not until 1880 was any systematic analysis of human food-stuffs made in this country,[1] and not until 1895[2] was any comprehensive American work on dietetics published for our use. The study of cookery, too, is of importance. "Quite as much depends on the suitable preparation of food as upon the selection and limitation of the food itself."[3] The proper cooking of food in Iowa is rare.

In order to obtain some practical information as to what the people of Iowa eat, how their food is cooked, and the relation of the food to the general health, printed question-sheets were sent to a large number of the people of Jefferson County asking for details on this subject. This paper is an attempt to formulate the results of this inquiry, and of several years of personal observation among the people of this county. The answers to the questions were, of course, not scientifically exact, but it is believed a view of sufficient definiteness is obtained to be of some use to our labors for better health.

Jefferson County is a tract of rich farm land in Southeastern Iowa. The county contains one town of 4500 inhabitants, and several small villages. A large proportion of the people are farmers, with the mechanics, merchants, and professional men common to such a community. Of the 17,000 inhabitants, but 75 outside of the county poorhouse have public help to food, and this help is but for part of the year. On the other hand, there is no extreme wealth, the equality in the condition of the people and the freedom from class division being perhaps as marked as anywhere in the world. The mean summer temperature is 71.6° F. The mean winter temperature is 20.6° F., and the mean annual rainfall is 34.33 inches.[4] The grains, fruits, and vegetables common to Iowa are raised in abundance. Pork, beef, mutton, and poultry are produced in excess of the local needs. Wood and coal are easily obtained. With these advantages the choice of a diet by these people would seem easy to all, and with the proper selection of food and good cookery the general health (in so far as it pertains to diet) should be excellent.

A review of the answers on the question-sheets sent to the people show the following prevalent conditions as to food and cooking: The people of Jefferson County eat three meals a day, taking breakfast at 6 to 8 o'clock, dinner at noon, and supper at 6 to 7 o'clock P.M. The principal meal is at noon. It is a general custom on Sunday when, because of rest, less food is needed, to have a much more elaborate dinner. It is also common to have the Sunday meals at widely varying hours, thus disturbing the otherwise regular habits.

Meat is eaten nearly universally three times a day. In the country this meat is usually pork in the summer and pork and beef in the winter. In the towns beef is more generally used. Mutton and poultry give occasional variety to the proteid diet. The percentages of these meats used was not accurately determined, but probably corresponds very nearly with those found by Gibson in his Missouri studies.[5] This meat is usually fried for breakfast, boiled or roasted for dinner, and sliced cold from the roast or

* Read at the 47th Annual Meeting of the Iowa State Medical Society, held at Des Moines, Iowa, May 18, 19 and 20, 1898.

fried for supper. The amount of meat eaten by the farmers is equivalent to six ounces of beef a day for each adult. In town the merchants and professional men average eight and ten ounces a day. More meat is eaten in winter than in summer because it is the easiest food obtainable. The excessive meat eating mentioned by Dr. Purdy[6] as one of the American dietetic errors cannot, it seems, apply to Iowa farmers. The amount eaten here is below Mrs. Richard's ideal ration.[7] The cooking is, however, greatly at fault, and produces harmful results. The animals are killed too young, and are eaten too soon after butchering. The best animals are exported, and there is much waste in buying particular cuts which, though having less nourishment, poor methods of cookery demand.

Potatoes are eaten at two meals every day. For dinner they are usually boiled without the skins, thus losing the salts[8] valuable to the economy. For breakfast or supper the potatoes (boiled) are sliced and fried in lard or butter. This dish, fried potatoes, is one of the most universal foods of our people. The amount of potatoes eaten averages ten ounces a day for each adult, which is excessive when added to the other carbohydrates consumed. To the excessive use of this food can be attributed the gaseous distention of the stomach and bowels which is so common and which is relieved by the restriction of the fried potatoes.

Bread forms here, as elsewhere, the most important article of diet. It is made almost exclusively of roller-process wheaten flour, and is raised with yeast. Though generally fairly well made, through ignorance of the fundamental principles involved in the manufacture (being usually home made) the bread is frequently heavy and indigestible. No whole-wheat bread is used except in a very few families. Corn bread is occasionally seen. Rye bread is even less common. Considerable bread is eaten at every meal, and with the other carbohydrates consumed gives an excessive ration, the results of which will be referred to below. Hot bread and batter cakes, so often condemned in a diet, are not used frequently by the people here studied. In some families such cakes are eaten at every breakfast, but this is not the rule. Pies and pastry are usually eaten twice a week. Some families have pies daily, but this is rare. From the papers examined there seemed to be no relationship between the hot bread and pastry diet and the stomach trouble of these people.

Oatmeal is eaten once or twice a week. It is usually boiled in water for a short time only, and not thoroughly cooked as it should be. The advantages of long cooking at low temperature seem unknown. Beans are eaten once a week, or less frequently, usually boiled or baked with pork. Corn-meal and hominy are eaten but little. A mush is at times made of corn-meal and water, which when cold is sliced and fried in lard. This cheapest of foods, corn, in its various forms, is much neglected. Butter, in the country, though made well, is much neglected, the average amount being two ounces or less a day for an adult. Pork evidently supplies the fat needed. The majority do not use cream freely. Though many times urging the increased use of butter and cream in tuberculosis, the writer has no evidence of this in any way substituting the advantages of cod-liver oil.

Fruits, either fresh or canned, and fruit jellies, preserves, and butters are eaten abundantly by all at every meal. Tomatoes are very generally used. With these fruits, maple and sugar syrup, and molasses and honey, a large amount of the sugars is consumed. The green vegetables grown in the garden are eaten freely in the summer and sparingly in the winter. Perfect methods of preserving fruits and vegetables for winter use are much needed, but are yet unknown.

The water-supply is from surface wells. These wells are located with an eye to convenience only, and without regard to the universally present cess-pools which are an undoubted source of contamination, becoming each year a greater danger to our prairie towns. Tea is used occasionally for supper by a small percentage of the people. Chocolate and cocoa are rarely used, while coffee is drunk three times a day by a majority of the adults. This coffee is made by putting the ground brown berries in the coffee-pot, pouring on hot water, and boiling some time. The coffee-pot is often put on the stove as the first act in preparing a meal, and the decoction is boiled while all else is cooking. The coffee-pot is seldom washed, and egg is rarely used to clear the coffee. Coffee is drunk with sugar and milk or cream added. The writer has several times had attacks of dyspepsia after drinking such decoctions, and finds from the reports studied a marked relation between coffee-drinking and stomach trouble.

In cool weather the average amount of fluids taken by an adult is 32 ounces. In summer this amount is greatly increased, but on the average far too little is ingested. Alcohol, beer and wine are not generally used as part of the diet. Many men drink these beverages but not at the table nor with regularity. As to condiments, they are little used. Black pepper is consumed in moderate amounts, but chili, capsicum, tobasco, and strong sauces are used but by few of the people.

I have in a general way reviewed the food of this people, but perhaps we will be helped to a clearer

idea of their diet by a glance at some actual daily menus, three of which, typical of the representative classes, are here presented:

1. A FARMER.

BREAKFAST, 7 A.M.

Fried Salt Pork. Fried Potatoes.
Wheat Bread. Butter. Apples fried in butter and sugar.
Melted Sugar Syrup. Plum Butter.
Coffee.

DINNER, 12, NOON.

Boiled Beef. Boiled Potatoes.
Wheat Bread. Butter. Pickles. Stewed Tomatoes.
Canned Raspberries. Grape Jelly.
Berry Pie. Coffee.

SUPPER, 6 P.M.

Boiled Beef, sliced, cold. Poached Eggs.
Wheat Bread. Butter. Fried Potatoes.
Canned Cherries. Sugar Syrup. Plum Preserves.
Cake. Tea.

2. AN UNSKILLED LABORER.

BRAKFAST, 6 A.M.

Griddle Cakes. Wheat Bread. Butter.
Grape Jelly. Coffee.

DINNER, 12, NOON.

Fried Ham. Wheat Bread. Butter.
Boiled Potatoes. Baked Apples.
Pudding.

SUPPER, 6 P.M.

Wheat Bread. Butter. Oatmeal and Milk.
Apple Pie.

3. A BANKER.

BREAKFAST, 8 A.M.

Oatmeal and Prunes.
Hamburg Steak (beef) fried. Buckwheat Cakes.
Coffee.

DINNER, 12, NOON.

Roast Beef. Mashed Potatoes. Baked Squash.
Wheat Bread. Butter. Pickles.
Mince Pie.

SUPPER, 6 P.M.

Cold Roast Beef. Cranberries.
Wheat Bread. Butter. Canned Peaches.
Tea. Cake.

These actual daily menus are of typical winter-day meals. The town laborer, through a lack of knowledge in food composition and cost, has too little proteid, while the banker has too much meat in his diet. The farmer by frying his foods makes their digestion difficult, and by eating too much starch suffers from biliousness and fermentative dyspepsia.

With this picture of the peoples' diet before us, by briefly reviewing the death-causes and present prevailing diseases in the county, a relationship should be seen, if any exists, between the food and the health of the people. The mean annual death-rate in Jefferson County is 121. The mean duration of life is 41¾ years. Of the 599 deaths occurring from 1890 to 1895, 233, or 40 per cent., were due to diseases of the stomach and bowels (not malignant), diseases of the kidneys, bladder, liver and heart, apoplexy, and rheumatism, all of which may have had their origin in the improper use of food. But it is the morbidity more than the mortality that interests us. The bulk of the country doctor's practice in this part of Iowa, excepting the infectious diseases, surgery, obstetrics, gynecologic and sense-organ diseases, consists of constipation, the dyspepsias, chronic rheumatisms, and myalgias, acne, eczema, and their results. Constipation with the women is universal, and is common with the men. In summer this is somewhat lessened by the free use of vegetables and uncooked fruits. In looking for a cause for the constipation in the dietaries examined, (*a*) the small amount of fluids ingested, (*b*) the foods made indigestible by poor cookery, and (*c*) the use of foods leaving too little residue, might be considered in the order named. Dyspepsia—chronic gastric catarrh—with its results, is, in Jefferson County, one of the most prevalent diseases the doctor is called upon to treat. The dietetic errors shown by this investigation to be possible causes of this catarrh, are: (1) coffee-drinking, (2) the use of the frying-pan, and (3) the overeating of carbohydrates. Abstinence from coffee contributes toward the cure of dyspepsia, though the harm done by this beverage may be in part due to its being improperly prepared. Dr. Bedford Brown[9] says the substituting of the stew-pan for the frying-pan saved the Confederate army much sickness and many soldiers.

A common dietetic error among the people studied is the consumption of too much food, and this excess is greatest with the starches and the sugars. Fermentation, flatulent distension of the stomach and bowels, resulting palpitation of the heart and that series of symptoms denominated biliousness, are extremely common. The use of patent "liver" medicines, now so extensively sold, could be lessened by improving the general diet. It is surprising that in a study of the question-papers in no case was there any relation found between gastric troubles and the eating of pastries.

Chronic rheumatism and the myalgias are very common in Southern Iowa. These occur in the well-fed. A relationship between overeating, with too little fluid, and these diseases seems to be shown in the papers studied. Eczema and acne are undoubtedly affected by diet. These are here, as elsewhere, the most common skin diseases seen. It is probable that the dietetic errors which produce the stomach catarrh aggravate these affections.

Of course in a study of the dietetic causes of disease other things than the kinds of food eaten

must be considered. Rapid eating may cause good food to be indigestible. Bad teeth and the bacteria swallowed from a filthy mouth may help toward producing gastritis. But after considering all the elements, the following would seem to be the general dietetic causes of poor health in the communities studied: (1) Too little fluid ingested; (2) poor cookery; (3) overeating of the carbohydrates. Of these errors the first and last can be at once corrected by our prescriptions, but the overcoming of a too prevalent poor cookery is a more difficult problem. Cookery in Iowa is generally done by those who know little or nothing of the scientific principles involved. As far as is known to the writer, young women are not taught cookery or the principles of food selection in any Iowa school, with the exception of the State Agricultural College.

After some consideration, the shortest course toward the abolition of the frying-pan and the introduction of better cookery is thought to be the encouragement of the methods of Mr. Edward Atkinson.[11] It has been insisted that both meats and vegetables should be cooked at 180° C. (316.6° F.)[12]. It has been proven that economy in fuel and food flavors, ease in digestibility, and many other good purposes, are served by cooking food a long time at low temperatures. By many experiments with a wood-pulp bucket (costing 35 cents) inverted on an iron plate over an ordinary lamp, cheap food has been cooked in an attractive and digestible form. One great advantage in this cookery is that no skill is required, and young women can still devote their attention to music and Latin. The purposes of this discussion will not permit a more lengthy reference to this important subject.

The making of this inquiry has been of great interest to the writer, giving data and impressions that will be of practical use in professional work. Years of experience perhaps lead a doctor to give more attention to right-living and less to the prescribing of drugs. Many dicta relating to diet have been published and requoted until they appear as established facts. One is surprised when led to believe from his reading that excessive meat-eating causes rheumatism and myalgia, at being repeatedly told by his suffering patients that they eat but very little meat. It is a pleasure to note the valuable studies in diet made at the several Agricultural Colleges in the United States, and it was learned with regret from the President that the Iowa Station had made no such study. But it may be true that our professional statistics and the various data for our use are compiled now to too great an extent at large hospitals and in city institutions, and perhaps country doctors by some concerted study could do valuable work which would be better adapted to the use of such of us as practice in small towns.

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TUMORS OF THE BREAST.[1]

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CASE I.—Amanda H., colored; aged twenty-three years; married; no children; personal history good. She noticed a small hard lump in the outer and upper quadrant of the breast eighteen or twenty months before consulting me. It was not painful or tender to manipulation. She gave it no consideration for the time being, not using, as is customary with this class of people, even a local application of any kind, hence very little irritation was produced in its early history. She stated that two months after she first noticed the lump it was twice as large as when first observed. She had consulted a physician, who stated that it would have to be removed, but she absolutely refused to consent to surgical interference at that time. The growth steadily increased in size, and just before I operated upon her had begun to cause some pain and inconvenience. It had become very tender in certain areas. This I especially noticed a week or so before I removed it. I think the tenderness was due entirely to its being a very large tumor; standing out prominently it was subject to injury during the time she was at work, her occupation being that of a washwoman.

The tumor occupied the entire outer and lateral half of the mammary region; it was hard and nodulated; the breast was soft and was easily pushed to the inner and upper side of the growth. My incision was so made as to save the nipple and to hide the scar as much as possible, after the plan suggested by Gaillard Thomas. I regarded the growth as an adenofibroma which had not yet undergone cystic degeneration, and operated with a view of sparing the breast-gland if possible. Had I found it cystic, and I purposely cut into it when I had it well exposed to ascertain if a cyst were forming, I would then have removed the entire gland with the tumor. As cysts were not present, and it was completely encapsulated, the gland was left intact.

Adenomata may occur at any age but are most fre-

[1] Read before the Louisville Surgical Society.

quent between puberty and forty-five years, that is, during the period of sexual activity. They are rarely painful, the fibro-adenomata more often so than the cystic. It is reported that they frequently become painful and more sensitive to manipulation during the menstrual period. Adenomata of the mammary gland are, with few exceptions, fibro-adenomata. Since fibrous tissue is always mingled with the glandular hyperplasia, true adenomata are very rare. The excessive development of connective tissue and absence of secretion is the line of demarcation in the departure from the normal gland undergoing changes during lactation. The two varieties of adenomata are, as a rule, essentially benign; they may, however, degenerate into epithelioma. Orth makes the statement that these tumors may arise from the adventitia of the milk-duct, or the connective tissue in conjunction with the hyperplasia of gland-tissue. This fact of degenerative action in connection with recent pathologic observations have beyond doubt revealed that adenomata have a tendency to degenerate into tumors of a malignant type. This gives to the growth a peculiar clinical significance, and removal should be urged as soon as such tumors are discovered.

Mammary adenomata occur as fibro-adenomata, and cystic adenomata (so-called adenocele). As a rule, they are located in the superficial parts of the breast-gland; they may, however, be deeply situated; they are hard to the touch and glide easily about under the skin when examined. A cardinal feature of these tumors is their mobility. Fibro-adenomata, as a rule, rarely exceed the dimensions of an unhulled walnut, and are usually much smaller. The cystic variety, on the other hand, often attains a very large size, some reported weighing ten and twelve pounds. The cystic variety is also encapsulated, having a fibrous stroma with glandular acini embedded. The acini are often dilated, and intracystic growths are found springing from the walls, so-called papillomatous processes.

In the treatment of such cases the question of removal of the gland must be left to the judgment of the operator, when seen in their early stages. One general rule may be stated: When the patient is more than thirty-five years of age and the tumor very large and painful, it will be safer to remove the entire gland. Age should rank very high in estimating the extent of the operation. Mr. Clark believes that in certain cystic processes in the mammary gland an intermediate period is reached, in which, if certain stimulus is exerted, an adenoma is the result; or, if there is a predisposition and the patient is more than forty-five, a carcinoma will be the result, a most important observation, if pathologically correct, which has a special clinical significance in this class of tumors.

CASE II.—Mrs. K., a widow, aged forty-nine years, mother of several children, consulted me in February, 1895. Her history up to that time had been good. About a year, or probably less, before consulting me she observed a small lump in the upper and outer quadrant of the left breast. At the time of my first examination the tumor was about the size of a hen's egg, the skin was adherent over it, and it was apparently slightly fixed to the underlying muscle. The nipple was markedly retracted and the glands were enlarged along the outer border of the pectoral muscle and in the axilla. The tumor was very hard to the touch and the skin overlying it was of a brawny appearance and shriveled. I proposed a radical operation, after the method of Halsted. Her health at that time was not of the best, and I feared that possibly dissemination had or was occurring. I stated to her that the operation suggested was an extensive one, and not without danger. After due consideration she consented.

I removed the breast, including in the circular portion of my incision the entire gland at its base. The pectoral muscle was cut away, and the tumor was found adherent. This exposed the axilla and infraclavicular region. The axillary vein was easily seen, and all fat and glands were entirely removed as high up as the middle of the clavicle. This was as high as any enlargement of the lymphatics was found. The nerves were carefully preserved. This left a very large space at the site of the breast which could not be covered by skin, the triangular part of the flap being used to entirely close up the axilla. The extensively denuded surface was allowed to granulate, and ten days after the primary operation I skin grafted the defect with an oval piece of skin, four inches long by three and one-half inches at its widest part, from the chest on the opposite side, allowing the pedicle to remain intact, as a good blood-supply was necessary to maintain the nutrition of the graft. After three days it was attached firmly and the pedicle was cut at the margin of the wound made by the removal of the breast. A considerable piece of pedicle was left, which was replaced in its original position, and assisted materially in closing the defect left by the skin graft.

This patient was well, with no sign of recurrence, in July of this year, the last time I heard from her.

CASE III.—Mrs. F. was referred to me by her physician. About six months before I saw her she had noticed a small nodule in the breast, which she said was becoming very painful and had doubled in size within this period. There was no glandular involvement, and the nipple was not retracted. The same operation as in Case II. was performed, the axilla, which was found studded with small lymphatic enlargements, being cleaned out as high as the middle of the clavicle.

In both of these patients the use of the arm is almost as good as before the operation. Microscopic

sections of both these tumors showed them to be pure carcinoma of the acinous variety.

During the year 1889 I operated in one case of cancer of the breast, and during the same year assisted in two more. From that time until 1895 I have notes of four amputations of the breast in addition to the last two cases here recorded. Deducting the last two cases, it leaves six patients operated upon by what we call to-day an incomplete method. I have been able to follow the history of four of these patients. In two cases the axilla was not invaded because at the time of the operation no enlargement was felt in the axilla; the skin over the tumor was not appreciably involved; in both the nipple was slightly retracted; the entire breast was removed by a small elliptical incision, and the fascia over the pectoral was not disturbed. In one of the cases a few enlarged glands along the free border of the pectoralis major muscle were removed. In both patients recurrence took place; in one there was local recurrence in the scar, with lymphatic involvement below and above the clavicle when she returned for treatment. In one, regionary recurrence took place in the gland above the clavicle and in the axilla. In both instances a secondary operation was refused. In the third case a secondary operation was permitted. The recurrence was first noticed in the scar as exuberent granulation tissue, and occurred about three months after the primary operation. The secondary operation consisted of excision of the granulation tissue and the use of a cauterizing paste, composed of sulphuric acid and charcoal. Before the healing process was nearly completed enlargements in the axilla and above and below the clavicle were easily felt.

Recurrence took place in the four patients in three, six, seven, and ten months respectively. The prognosis in one upon whom a secondary operation was performed was considered at the time of the primary operation most favorable, but recurrence was more rapid than in the others, in which the tumor was larger and the skin found to be slightly adherent. In the two cases in which the axilla was invaded, enlargements were felt in both before the operation, and these enlargements were found to be very numerous and matted together when the axilla was fully exposed. In each instance the axilla was cleared, as was the practice then, of all glands that could be felt and seen, but the pectoral fascia was not removed. Local recurrence took place in seven and ten months. The glands were so enlarged in one case twelve months after the second operation as to produce edema of the arm. Excruciating suffering was experienced by this woman before she was relieved by death.

I am aware of the fact that operation after operation has been performed upon patients and their lives prolonged for many years, yet they all seem to have been incomplete operations from the first, and there are few patients who can be persuaded to submit to these multiple operations, which after all hold out only a slight chance for anything in the way of permanent relief, for there are reported cases in which even the second and third operations have been done and the patients died of internal metastases in less than twelve months after the primary operation. Observation goes to show at this time that if success is to attend operations for breast cancer, they must be done early and must be complete. I would designate as an early operation one performed before any enlarged glands are demonstrable along the border of the pectoral muscle, and before the skin has become involved in the infiltration. I regard this period early, for the rule among patients is to keep away from their physicians for at least three to six months after a nodule has been discovered, and ordinarily they do not present themselves for treatment until the tumor begins to enlarge, becomes painful, and in a majority of cases not until the skin has become involved.

The systematic cleaning out of the axilla was first advocated and practised by Volkmann, Billroth, and Küster, whose results were probably the best obtained until within a short period of the present time. Although these operators labored faithfully to master the disease by constantly extending their operative measures, local recurrence in their practice was enormous. Even as late as 1893, Bland Sutton laid great stress upon the importance of avoiding opening the axilla, if possible, on account of the added risk to the patient. Volkmann, Billroth, and others were systematically cleaning out the axilla and removing the pectoral fascia in the early stages of breast cancer long before this, and Volkmann removed part of the pectoral muscle when satisfied of its involvement. To the last-named operator we owe the statement of the difference, prognostically, between the involvement of the pectoral muscles by extension of the growth and the invasion of the muscles by metastasis. This may be explained, as Ludwig says, by the cellular elements entering the lymphatic system of the muscle and being carried rapidly by the muscle contraction throughout its fibers. It is not necessary that the tumor be adherent to the muscle in order that the muscle itself be involved, and, as stated by him, carcinoma may be embedded in muscle and still not *involve* the muscle, by virtue of the fact that the lymphatics spread out upon the fascia and do not follow the blood-vessels into the connective-tissue septa between

the muscle-fibers, in which theory he is supported by Heidenhain, whose investigations have proven that the direction of the lymphatic current is from muscles to fascia and not in the reverse direction. So much was Volkmann impressed with the fact that the fascia is involved long before the muscle, that he adopted a method of operating which has become classical. It has been his advice to remove the fascia of the pectoral as clean as possible, and he asserts that when carcinoma has made its way into the lymphatic vessels it has invaded the fascia down to the surface of the muscle, however thick the layer of fat between the breast-gland and muscle has been, even if it still remain perfectly movable.

As to the ultimate results, or what might be called radical cures after complete operation, most surgeons accept even yet the views of Volkmann, that at least three years must pass before a radical cure can be claimed. His method of cleaning the fascia from the pectoral muscle, a wide incision, with systematic clearing out of the axilla, have given the best results up to the present time, but it is by the method of Halsted, in this country, that the radical cure of breast cancer gives far better results if the patient is operated upon before dissemination has taken place.

The following table is from Halsted's paper, published in 1894:

Operator.	Time.	Number of cases.	Local recurrence. (Per cent.)
Bergmann	1882–87	114	51–60
Billroth	1867–76	170	82
Czerny	1877–86	102	62
Fischer	1871–78	147	75
Gussenbauer	1878–86	151	64
Kõnig	1875–85	152	58–62
Küster	1871–85	228	59.6
Lücke	1881–90	110	66
Volkmann	1874–78	131	60
Halsted	1889–94	50	6

Halsted says: "The prognosis at the time of the operation was recorded as hopeless or unfavorable in 27 of the 50 cases of complete operation. In every one of the 50 cases some or all of the axillary glands were cancerous."

In the two cases reported I followed the method of Halsted in every particular. In the case of the first patient nearly three years have elapsed, and in the second, a year and five months since the primary operation. In neither has local or regionary recurrence been discovered. The patients remain in good health, with almost perfect use of the arm. I am convinced that the operation is incomplete unless the pectoral fascia and muscles are removed. It is never known until after a microscopic study of the muscle-fibers has been made whether or not they are involved, and as they are involved before decided lymphatic involvement is palpable, it is poor surgery to leave the muscle behind, the loss of which does not entail a great amount of disability as far as the arm is concerned.

THE OBSTETRIC FORCEPS AS A CAUSE OF MENTAL AND NERVOUS DISEASE; A PROTEST.

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It has apparently become almost an accepted dictum among certain alienists and neurologists that, given a child in whom there is an existing mental or nervous defect and a history of forceps delivery, the relation of cause and effect of necessity exists. Indeed, judging from the statements one sees in medical literature, forceps delivery necessarily entails great risk to the future usefulness of the child. Against this trend of opinion I want to record a very positive protest born of a fairly large experience in general practice, having been able to follow the history of my cases through years.

Cerebral membranes and tissues are in far more danger, it seems to me, from prolonged and unassisted labor than from any pressure which may be applied to the head by the proper use of the forceps. If there be maladroitness of application, that is a fault not chargeable to the instrument but to the operator. Avoidable damage to the fetal or maternal structures must be charged to the proper account. No surgeon would tolerate condemnation of his pet operation because some one else with less skill, or who failed to comprehend its principles, had unfortunate results. I hold that vastly more damage is done to the structures involved in mental and nervous processes by injudicious and incapable delay than by the timely and proper use of the forceps. The following case will serve as an illustration:

On October 5, 1889, I was called in consultation to see Mrs. L., with a view to performing craniotomy. I found her to be a large, fat woman, in labor with her sixth child. All her previous labors had been prolonged and difficult. When I saw her she had been in labor twenty-four hours, with hard pains nearly all the time. The attendant had attempted to deliver with forceps, but considered the head too large to pass through the parturient canal. A vaginal examination revealed a large boggy mass projecting downward. Neither fontanelle nor suture-line could be made out. The os was dilated to its extreme limit, and high examination showed the head to be lodged on the brim of the pelvis. The long forceps was applied, but the grip was insecure and little force could be applied in traction before it slipped. By external manipulation and very steady, gradual, and

patient traction the head at last passed the obstruction and the woman was speedily delivered of a living male child weighing eight and a half pounds. Its appearance was monstrous; it looked double-headed, with one head superimposed upon the other. It was unconscious when born and remained so for a week. Soon after birth it was taken with tonic convulsions, and during the first week had more than one hundred such spasms. It gradually recovered and began to thrive and grow. He is now a strong, sturdy boy at school, wearing a 7⅜-hat. While fairly intelligent, he is a moral terror, and among all the children he is the only one with a neurotic tendency. Any slight indiscretion in diet brings on the most dreadful tonic convulsion, from which he does not recover for hours. I have always felt that had this child been delivered twelve or eighteen hours sooner his peril would have been avoided.

I have seen children injured in delivery with forceps, but the injury was due to the malformation of maternal structures and not to the forceps. It has become a question with me as to what extent external force short of actual rupture of the meninges will develop cerebral troubles in the child. Any one who has seen many occipitoposterior deliveries will be struck with the facility with which cerebral tissues change their relative position, with no resulting harm. A long wire-drawn head, bearing no resemblance in shape to the normal fetal head will gradually right itself with not a particle of harm done. According to this ultra school of neurologists every occipitoposterior delivery should result in a crippled brain. In thirty of these patients, some of whom are now more than twelve years of age, I have yet to see the first bad result. Indeed, if there be any physiologic reason why the bones of the fetal head should be so freely movable it is that they, and *pari passu*, the cranial contents, may allow such change in relative position as the exigencies of delivery demand.

To those who have done even a small amount of obstetric work it must have been a matter of frequent notice how readily the bones of the skull bend when pressure is applied, as in rectifying faulty head positions, and yet the child be absolutely devoid of symptoms pointing to brain injury. True, these depressions and bendings of the cranial vault are but momentary and disappear as soon as the force is removed. The following case, however, shows how entirely void of ill effect even a permanent depression may be:

On July 17, 1896, Mrs. D. fell into labor with her first child. Though slow, her labor advanced satisfactorily until the head was on the perineum, when the woman's vital powers began to flag. Applying the short forceps the fetus was easily delivered when, to my horror, I found a depression almost as large as a silver dollar over the right frontal region made by the point of the forceps-blade. I, of course, expected all sorts of dreadful results and watched the child with great interest. His development has been perfectly typical. The depression was gradually obliterated as the bone solified and now, more than two years after, there remains no trace of it and the child is above rather than below the average in mental and physical development.

I, of course, like every other man in general practice, have seen children with mental and nervous defects, but in the cases coming under my care there has been absolutely no history of forceps delivery. All those of defective mentality have been born normally, the labor in every case being exceptionally easy.

That the forceps, badly applied, is capable of doing damage I am not denying; that the pulling of a large head through a small and contracted pelvis may do damage to the head, I also am not denying. This last needs must be, and in deciding what shall be done it is a question of risk to life or usefulness of the child, or submitting the mother to a capital operation. These cases must each be decided individually and in each the individual risk must be taken, but that the ordinary use of the forceps, in any case in which it alone is indicated, and is used simply to supplement the waning or exhausted *vis a tergo*, is in itself a source of danger to the child's brain I have failed to observe, and against the theory that it does so I must most emphatically protest.

WAR ARTICLES.

LEITER GENERAL HOSPITAL—SOLDIERS' AID COMMITTEE—HOSPITAL TRAIN—DISCHARGES FOR DISABILITY.

CHICKAMAUGA PARK, GA., August 7, 1898.

THE writer made his first visit to Leiter General Hospital last week, and was given a cordial welcome by Major C. E. Carter, United States Volunteers, who is in charge. The Major and myself had not met for nearly fifteen years, having separated at old Fort Thomas, Arizona, during a campaign against the wily Apaches. Leiter Hospital is running at its full capacity, the vast majority of cases, perhaps ninety per cent., being of typhoid fever. The Brand method of treatment is carried out, and gives a mortality of from 1 in 16 to 1 in 18 cases, or from 6.25 per cent. to 5.11 per cent. As high as 1000 pounds of ice have been used in one day to furnish the required degree of temperature to the baths. It is customary to grant furloughs to patients convalescent from typhoid fever in this hospital. Surgical cases have not been so abundant as in the earlier weeks of the campaign. Operative cases occur not infrequently, however, necessitating a resort to the knife for appendicitis, or to the splint for fracture of the long bones. Many alterations and improvements, both within the building and on

the grounds, are in progress, and the institution under the excellent management of Major Carter is bound to flourish and fulfil its useful mission.

I was recently in receipt of a letter from the Soldiers' Aid Society, through its secretary, Mrs. Daniel N. Bash of Peoria, Ill., offering assistance in the way of supplies—jellies, blackberry cordial, pajamas, and other needful articles—for the sick of this Division Hospital and Ambulance Company, and we responded with gratitude to the call. There are now about 300 sick in our Division Hospital, and the Ambulance Company is kept on the *qui vive* to supply the ambulance service. This morning at 5.30 o'clock sharp eighteen ambulances were in waiting at the Division Hospital for the transportation of typhoid-fever patients to Lytle, whence they will be transported by hospital train to Fort McPherson, Ga., after swelling the list to 134 by additional cases from the First Division Hospital of this corps and other sources. The sick were carefully but expeditiously unloaded from the ambulances, and ninety-two of those unable to sit up were placed in lower berths of tourists' cars, one to each berth, on a comfortable mattress on white linen sheets. The upper berths are used when the necessity exists, and they serve to accommodate the convalescent patients. Major Charles Richards and Captain Henry R. Stiles, Medical Department, United States Army, were charged with the care and transportation of the sick by hospital train, and after unloading these at Atlanta, will probably go on to Tampa, Fla., for sick or wounded awaiting them there.

Certificates of discharge for disability for diseases not incident to the service, or rather for diseases or disability existing prior to enlistment, still continue to be handed in to boards of three medical officers convened for the purpose of scrutinizing the certificates and approving or disapproving them before forwarding to authorities competent to order discharge from service. Those certificates submitted, for example, for asthenia consequent upon typhoid fever, are usually disapproved and a furlough recommended. In this way a good man may be spared the service, and the Pension Department not unnecessarily burdened with claims for temporary disability. Far too frequently cases are brought before the board with the history of maiming, or physical deformity, or mental incapacity, years of epileptic seizures, moral obliquity, luetic manifestations, and other disabling conditions existing prior to enlistment. Not too frequently that the Army should find an early riddance of them, but too frequently that those so disabled physically, mentally, or morally should have in some instances withheld pertinent facts of their past or present physical ailments from the knowledge of the recruiting and medical officers, or have evaded their scrutiny on account of careless or faulty methods or duty perfunctorily or negligently performed. The stringency of our recruiting regulations is still in effect, and it does not seem to be the purpose of the Administration to let down the bars during war times, and more and more each succeeding year am I impressed with the paramount importance and weighty moral responsibility pertaining to the functions of the recruiting officer and medical examiner of recruits.

It is a matter for contemplation and for serious reflection by the medical staff of the Army that within every three years the whole enlisted force is brought before it for judgment to be pronounced as to their physical and mental fitness and capacity for performing effectively the duties of the soldier. Recruiting and medical officers should keep constantly before their mind's eye Tripler's inimitable description of the leading characteristics of a good constitution: "A tolerably just proportion between the different parts of the trunk and members; a well-shaped head, thick hair, a countenance expressive of health, with a lively eye; skin not too white, lips red, teeth white and in good condition; voice strong, skin firm, chest well formed, belly lank, parts of generation well developed, limbs muscular, feet arched and of a moderate length; hands large. The gait should be sprightly and springy, speech prompt and clear, and manner cheerful. All lank, slight, puny men, with contracted figures, whose development is, as it were, arrested, should be set aside. The reverse of the characteristics will indicate infirm health or a weakly habit of body; loose, flabby, white skin; long cylindrical neck; long, flat feet; very fair complexion; fine hair; wan, sallow countenance," etc., if they would have a regiment or an army of approximately physically perfect recruits not encumbering the sick recruits with other diseases than the infectious fevers which depend so largely on conditions or environments for which the recruit is not individually responsible, nor deranging the effectiveness of an organization for the time being by frequent resort to certificates of discharge for disability for diseases incurred prior to enlistment. The boards are rapidly weeding out the incapable and incapacitated men, and recommending furloughs in many cases to convalescents who give promise of early usefulness.

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SICK AND WOUNDED SOLDIERS FROM THE BATTLE-FIELDS OF SANTIAGO, CUBA, AND VICINITY AT THE UNITED STATES MARINE HOSPITAL, STAPLETON, STATEN ISLAND.

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OF the 100 sick and wounded soldiers admitted to this hospital July 16, 1898, a large majority received their wounds on the first day of July, some on the second and third days of the month, and a few as early as June 24th. The wounds in most cases were more than two weeks old, and in some cases more than three weeks old, when the patients were admitted, hence the brief and necessarily incomplete description of some of the cases here reported.

Some of the wounds were slightly infected on arrival, but the majority were in good condition, proving the value of the first dressing properly applied and with due regard to asepsis. Forty per cent. of the men were

wounded in the upper extremities, 29 per cent. in the lower extremities, 10 per cent. in the head and neck, 5 in the chest, 2 in the back, and 1 in the abdomen. Four suffered from the effects of heat (sunstroke), and one from concussion of the brain and spinal cord. Many cases were complicated by malaria and diarrhea, and there were two cases of enteric fever (typhoid). Seventeen additional patients, all medical, and chiefly malarial cases, were admitted July 30th, having arrived at quarantine the day before on the transport "Leona."

Many of the surgical patients required comparatively little treatment beyond the necessary changes of dressings, and those wounded in the upper extremities and a number of others have been able to be up and about the hospital and grounds since the day of arrival. Nearly all the wounds were produced by the Mauser bullet, two by shrapnel, and two by pieces of shell, and in one case by shell explosion. The wounds are nearly all perforating. In a few cases the ball remained lodged in the body. Removal was easily effected in two cases by the aid of the X-ray, but no attempt has been made to remove balls lodged in the chest, of which there are two cases, both the men doing well. The wounds produced by the Mauser bullet in many cases were not unlike a large needle wound, the wound of entrance and that of exit in most instances seeming to have been about the same as to size and freedom from laceration. In a few cases the wound of entrance was the larger, and in a few others the conditions were exactly the reverse.

There are six fractures of the upper extremities, three of which are comminuted. The treatment of the infected wounds, and in fact of all the wounds, has consisted for the most part in antiseptic irrigation, followed by iodoform-gauze dressing. In some cases peroxid of hydrogen was first used to cleanse the wound. These measures, together with good nursing, good food, pleasant surroundings, and plenty of air space have thus far given as good results as could reasonably have been expected.

In submitting these notes, I beg to express my obligations to Assistant-Surgeons H. S. Cumming and H. B. Parker, and Acting Assistant-Surgeons R. C. Craig and T. B. McClintic, and Interne Albert Butler for valuable assistance in preparing the same.

CASE I.—Joseph Bily, aged thirty-one years; native of Austria; member of Co. G., 16th Regiment. Wounded, July 2, 1898. Wound of entrance in frontal bone over left eye; exit, middle of posterior border of sternomastoid muscle, evidently passing through brain tissue. July 16th, complained of slight pain and total loss of vision in left eye, but the natural appearance of eye is unchanged, save slight injection of conjunctiva. 18th, wounds healed. 21st, slight paroxysmal pain; 22d, slight pupilary reaction, but total blindness of left eye. 25th, comfortable. 31st, doing well.

CASE II.—Frederick Zeitz, aged thirty years; band musician, 16th United States Infantry. Wounded, July 1, 1898. Was lying down when struck by Mauser ball. Wound of entrance in middle of and just anterior to center of ramus of inferior maxilla of the left side, the ball entering sideways, having first hit the earth in front of him. The ball entered the antrum, destroying a considerable portion of the anterior surface and alveolar border of the superior maxilla; going downward and backward, it emerged through the palatal and nasal portion of the same bone, opening into both inferior meati and mouth. Its course was then checked by the molar teeth of right side. He removed the bullet with his fingers, it lying free in the oral cavity, and then applied a first-aid bandage to try and control the profuse hemorrhage. Surface dressings were applied daily for the next six days, when hemorrhage completely ceased; was afterward removed to the transport "Olivette" and sent North. On admission the antrum and both nasal cavities were found filled with pus, mucus, and fragments of bone. These were removed, and cavities frequently irrigated with mild antiseptic solution; granulation formed rapidly, and may completely close wound in mouth. The external wound has now (August 2) completely healed. Speech and swallowing are interfered with to a considerable extent.

CASE III.—Paul A. Barteline, aged nineteen years; native of Germany. Co. D., 16th Infantry. Wounded, July 1, 1898, by bullet entering on right side of face, passing through ramus of jaw to opposite side, downward and backward to point of exit below and behind left ear, near the insertion of sternomastoid muscle. July 16th, wound in good condition, apparently healed; no pain, but mouth cannot be opened more than about 2 centimeters. July 31st, improving.

CASE IV.—William Clark, aged twenty-seven years; native of District of Columbia. Co. E., 24th Infantry. Wounded by a bullet from a sharpshooter in a tree-top. Wound of entrance frontal bone above right eye; first point of exit inner side body of inferior maxillary bone, reentering muscles of shoulder, and emerging at inferior angle of scapula. July 16th, small wounds of entrance and exit nearly healed, except wound of back, and this is granulating. Total blindness of right eye from probable detachment of retina. Cornea opaque; muscular movement of eyeball not affected. 18th, some pain in right eye. 31st, improving, except as to eyesight. August 2, doing well.

CASE V.—David Holden, aged thirty-three years; native of Tennessee. Corporal, Co. F., 24th Infantry. Wounded, July 1, 1898. Bullet entered skull behind right ear and emerged on left side of nose just below inner canthus of left eye; some hemorrhage. July 16th, complained of headache and some defect of hearing in right ear. 19th, small quantity of purulent matter removed from right ear. 20th, headache and soreness of right side of face. Irrigation of warm solution of borax ordered for ear. 25th, ear improving. 28th, pain right side inferior maxillary. 30th, pain at angle of jaw. 31st, improving. August 3rd, wounds are healed. Lateral motion of jaw limited by reason of injury to pterygoids. Some sensory paralysis in region supplied by orbital branch of fifth nerve. Membrana tympanum was ruptured, and there was marked tinnitus, but that has nearly all gone.

CASE VI.—Charles H. Hoadley, aged nineteen years; native of Massachusetts. Co. K., 2d Regiment, Massachusetts Volunteers. Was wounded July 1, 1898. Bul-

let entered right side of neck, and apparently passed upward to ramus of jaw. No wound of exit. On admission to the United States Marine Hospital, July 26th, wound was healed, and patient was in fairly good condition, save some headache and restlessness at night. July 21st, headache all gone. Feels first-rate. July 28th, X-ray shows bullet, or portion of a bullet, above hyoid bone, behind trachea, near common carotid artery, where for the present at least it is apparently doing no harm, and patient declines further treatment. Furloughed July 30, 1898.

Case VII.—James Davis, thirty-two years old; nativity, North Carolina. Co. F., 24th Infantry. While on the firing-line on July 1st he was struck on the forehead by a missile of unknown character and remained unconscious for an hour or so, losing "a lot" of blood. When admitted July 16th his wound was nearly healed and no complications had occurred. The missile raised a horse-shoe-shaped flap 7 cm. in length, its convexity downward, and 5 cm. above the glabella. The wound is now healed. There has been no indication of any wound to the frontal bone.

Case VIII. — James A. Bingham, aged thirty-eight years; nativity, Indiana. Corporal, Co. G., 2d Infantry. Wounded, July 2, 1898. Bullet entered one inch below right shoulder-joint anterolaterally, passing directly backward through muscles, but emerging three inches from point of entrance. July 16th, wound in good condition. Says he had some fever on the voyage from Santiago to New York. 17th, some pain on motion. Has troublesome cough and bronchitis; no fever. 21st, feeling better; cough less annoying. 24th, says his "bones ache;" bowels loose. 27th, has temperature of 38.2° C. (100.6° F.); pulse, 80. 29th, temperature 37.2° C. 30th, temperature up to 38.4° C. (101.2° F.). August 2d. Temperature has risen one degree every afternoon the last four days, dropping back half a degree in the morning, and is now—evening—up to 40.2° C. (104.4° F.); pulse, 100; bowels quite loose; no pain. Typhoid fever of severe type.

Case IX.—Willis E. Parker, aged twenty-four years; nativity, Illinois. Sergeant, 10th United States Infantry. Wounded, July 1, 1898, in upper third left forearm, middle of left arm, left shoulder, neck, and right shoulder; a wound of entrance and exit in each locality; ten wounds in all. First wound of forearm with comminuted fracture of radius, wound of entrance being on exterior surface of arm over ulna about four inches below elbow-joint; ball went downward and inward, fracturing the radius with slight comminution, and made exit over inner border of radius about two inches lower on arm than wound of entrance. The arm being strongly flexed at the time, the ball passed through skin and fascia over biceps, and again over deltoid; reentrance at insertion of, and passed through right, sternomastoid muscle and out at center of right clavicle; reentered at outer extremity of and below clavicle, and lodged under skin over trapezius muscle, about center of superior border of right scapula, where it was removed by skin incision. Hemorrhage free at all wounds; first-aid dressings applied one hour after wounds were received, and again next day. Left forearm was dressed with a wire splint on July 2d, and on July 8th was encased in plaster dressing on the transport "Olivette." On admission arm was examined and fracture located; some callous but no union; splint applied. August 3rd, fracture firm; all wounds healed; utility of parts good.

Case X.—Andrew Kretschener, aged thirty-three years; native of Germany. Corporal, Co. C., 16th Infantry. Wounded, July 1, 1898. Bullet entered arm at middle of deltoid muscle externally, and passed directly inward, producing a comminuted fracture of humerus, and, entering the chest between fourth and fifth rib, passed downward and backward through the lung to final point of exit over spinous process of twelfth dorsal vertebra. July 16th, has antiseptic dressing and wire splint on arm. Hemoptysis was marked for some days, but ceased on the 14th; has some pain in arm. 18th, antiseptic dressing renewed, and arm and forearm placed in wire splint. 23rd, wounds of soft parts of arm healed; chest wounds healing; angular splint applied to arm. 31st, doing well.

Case XI.—James Grimes, aged thirty-five years; native of Kentucky. Corporal, Co. B., 24th United States Infantry. Wounded, July 1, 1898, in left forearm. Perforating gunshot wound, the ball entering on inner border of radius, and made exit on outer border of ulna, transversely across forearm, and about four inches below the elbow-joint. Both entrance and exit were enlarged and infected; there was a fracture of both bones of forearm, the radius being comminuted. Hemorrhage was slight; first-aid dressing immediately applied. July 2d, dressing was removed; anesthetic given and loose fragments of bone removed; wire splint applied. On admission dressings contained some pus, but wounds were in fair condition, cavity of radius filling up with granulation, bony union at fracture of ulna. Had seven malarial paroxysms on July 17th. August 3rd, forearm still in splints and doing well.

Case XII.—Edward J. Albertson, aged twenty-three years; native of New Mexico. 1st. Volunteer Cavalry. Wounded, July 1, 1898. Penetrating wound by Mauser ball; wound situated just below and internal to styloid process of radius on posterior surface of arm; is almost healed; a superficial dressing applied; maintains the ball is still in wound; some stiffness of thumb and constant pain. Wound examined on July 26th and found entirely healed; there was an area of fluctuation below wound, and, on making incision a considerable quantity of pus was evacuated. Ball could not be located. July 27th, was examined by X-ray. A Mauser ball is seen lying along side of and parallel with metacarpal bone of thumb. The incision made yesterday was slightly enlarged under cocain and the ball extracted. Is now rapidly healing.

Case XIII.—Charles F. McCoy, aged thirty-eight years; native of Pennsylvania. Private, Light Battery F., 2nd Artillery. Wounded July 2, 1898, in elbow-joint, right arm. Wound of entrance about one inch above external condyle; wound of exit about two inches below same point. The arm was flexed at the moment of

injury; the ball passed through the elbow-joint, apparently doing very little damage. Both wounds are small, and healed rapidly. Forearm has a range of motion of about 25° without producing pain. Has almost complete loss of power in muscles of forearm; slight motion in thumb; fingers powerless. Massage will be begun in another week; it usually gives excellent results.

Case XIV.—Herman Nicolaz, aged thirty-seven years; native of Germany. Private, Co. F., 6th United States Infantry. Wounded in forearm, July 1, 1898. Wound of entrance two and one-half inches above styloid process of ulna on extensor surface; wound of exit one inch above same point on flexor surface. Produced a compound comminuted fracture of ulna; fragments were removed and drainage used. Wound is in good condition and healing rapidly. The motions of the wrist-joint and fingers will not be interfered with. Had also tertian type of malaria; responded quickly to quinin.

Case XV.—John F. Mack, aged twenty-nine years; native of Ireland. Private, Co. E., 7th United States Infantry. Wounded, July 1, 1898, by Mauser ball. Entered first at center of axillary border of scapula; after going just beneath the skin for three inches it emerged and entered the arm at junction of post-axillary fold, going through triceps, humerus and deltoid, emerging just above the deltoid tubercle. The first dressing was applied by comrades, considerable pressure being used to control hemorrhage. The next dressing was applied about an hour after the reception of the wound; it consisted of a surface-dressing to all wounds except wound of exit; here a plain gauze drain was inserted. This dressing was renewed on July 5th; on July 14th was examined, and wound of exit found infected, the infection extending into medulla of bone; was redressed, a plaster cast being applied. On the 17th, on admission, the hand and forearm were markedly edematous and dressings saturated with pus; they were removed and wound thoroughly cleansed, a drainage-tube inserted, and the arm loosely dressed in wire splint. Two days later this dressing was removed and the arm found to be in fairly good condition; edema had disappeared; same dressing applied every second day since admission. Bone was found to be perforated and transversely fractured. It is interesting to note that the three wounds that had superficial dressings applied to them healed rapidly, while the one that was the subject of interference became infected and changed the whole course of the injury.

Case XVI.—Benjamin J. Hardman, aged twenty-two years; nativity, Alabama. Co. E., 24th Infantry. Wound was probably caused by a large caliber bullet from a sharpshooter in the trees striking the limb while the forearm was fully pronated. Patient received the wound July 1st, and it was dressed July 2d by surgeons at Siboney. The missile entered 7 or 8 cm. above the wrist-joint about one-third way between the outer and inner sides of the right forearm, passing thence downward, inward, and backward (as the arm was pronated), to an exit about 2 cm. above the styloid process of the radius just external to the radial artery. When first seen here, July 16th, the dressings were full of pus. The entrance wound was 3 cm. in diameter and surrounded by unhealthy granulations; the radius seemed to have been blown away (or removed) in part along the course of the missile so as to leave the intact articular portion connected with the shaft by a slender anterior connection. The exit was fully 5 cm. in diameter, covered with unhealthy granulations. A linear eschar running upward 25 cm. shows an incision made to remove splinters of bone. Through-and-through tube-drainage, with iodoform and bichlorid-of-mercury dressing, have been used, pieces of bone removed from time to time, and the wound is now healthy and healing.

Case XVII. — Michael McCartin, aged twenty-six years; nativity, Ireland. Sergeant, Co. G., 9th Massachusetts Volunteer Infantry. Wounded in finger of right hand, July 2, 1898. Ball first struck dorsal surface, second phalanx, second finger, producing contused wound, then struck second phalanx, index-finger, same hand, producing a compound comminuted fracture, splintering the bone throughout its extent. Was dressed at once and frequently afterward. Wound become infected, sloughs forming. On July 19th had secondary hemorrhage from index-finger. July 20th, finger was amputated at first joint. On August 1st had malarial paroxysm. Quinin treatment successful. August 4th, almost completely healed.

Case XVIII.—Isom Taylor, aged twenty-seven years. Troop F., 10th Cavalry. During a charge, July 1, 1898, a Mauser bullet entered the exterior aspect of the left forearm 12 cm. below the elbow-crease and, passing upward, backward, and outward, made its exit through the joint just on a level with the superior aspect of the olecranon as the arm was semiflexed. The wound was dressed at the Siboney hospital, and again on the "Olivette." July 16th, he was admitted here, and when dressed a rubber drainage-tube was found which passed 3 cm. into the elbow-joint through the exit wound. A linear eschar 5 cm. long showed incision made by surgeons. Exit wound was 1 cm. in diameter. Pus escaped from tube. Wound of entrance was healthy and was open for 5 cm. X-ray examination shows a separation of the head of the radius from its articulation, and a transverse fracture of the neck of the olecranon. Forearm was half pronated, and only a few degrees toward supination is possible. Wound is progressing very nicely, the local swelling and temperature has disappeared, and the drainage-tube shows little secretion.

Case XIX.—Shelby F. Ishler, aged twenty-one years; nativity, Illinois. Troop D., 1st Volunteer Cavalry. Wounded, July 1, 1898, in two places: first by Mauser ball in right thigh, ball entering at inner side about middle of shaft of femur and going transversely outward through skin, fascia, and quadriceps. Wound of entrance and exit extremely small and nearly healed on admission. The second and severest wound is in the right forearm, involving the wrist-joint. Wound of entrance near wrist-joint on anterior surface of forearm and between the radius and ulna; this wound is about one inch in diameter. The ball passed backward and upward, producing a compound comminuted fracture of the

radius. The wound of exit on the posterior surface is about two inches in diameter, the structures being contused and disorganized. It will be noted that this wound was produced by a large caliber ball (.45 to .50 cal.), of slow velocity and considerable momentum. It approaches in severity the combined wounds of bone and soft parts produced by the Minie-ball used during the Civil War; fortunately, these wounds are rare. It will be noted also, that twenty-five years ago the severity of this injury would have justified amputation, while to-day, August 2nd, it is almost healed, the deformity is not great and the hand will at least have partial restoration of function.

CASE XX.—Joseph B. Miskewicz, aged twenty-seven years; native of Poland. Co. F., 3rd U. S. Infantry. Wounded, July 1, 1898. Wound of entrance on flexor surface of forearm, about four inches above wrist-joint; wound of exit on radial side of extensor surface of forearm, about one inch nearer wrist-joint. Wound produced by round or large caliber conical ball; wound of entrance about one inch in diameter; wound of exit about same size. Produced compound comminuted fracture of radius. First-aid dressing applied in one-half hour. The next day, July 2nd, anesthetic was given, wound of exit enlarged, an incision about five inches in length along radius, fragments of bone were removed, and several inches of radius resected. Wound stitched. Became infected around wound of exit and entrance, and suppurated until admission. Wound cleaned and dressed. Next day wound was considerably inflamed and hand edematous from use of iodoform; sterile dressing applied, and since then healing has been rapid.

CASE XXI.—William B. Kronskop, aged twenty-five years; nativity, Ohio. Co. F., 17th U. S. Infantry. Wounded, July 2, 1898, by Mauser ball; hemorrhage was slight; first-aid dressing applied almost immediately afterward; has been dressed at regular intervals since. Wound of entrance two and one-half inches below acromial extremity of clavicle on anterior surface of arm; wound of exit midway between, and four inches above, condyles of humerus posteriorly. Both wounds are the same size, being about one-quarter of an inch in diameter, and healed uninterruptedly. Course of ball was through skin and fascia, deltoid and triceps muscles.

CASE XXII.—William Apitz, aged twenty-five years; nativity, Kansas. Co. C., 6th Infantry. Wounded, July 1, 1898. Missile seems to have entered palm of hand, causing severe laceration and necessitating amputation of index and middle finger, which was done by the surgeon of the regiment. July 16th, some pain; wound infected; dressing changed; wound cleansed and packed with iodoform gauze. July 20th, considerable pain. July 21st, wound cleansed with peroxid of hydrogen; dressed with iodoform gauze, and hand laid on a splint; dressing changed at intervals of two days. July 31st, improving.

CASE XXIII.—Justa Mustelier, aged forty-two years. Sergeant, Cuban Volunteers. Right forearm was shattered and severed in its lower portion by an American shell, July 23, 1898, and a modified skin-flap amputation done in its upper-third, June 25th, by the surgeon of the United States steamship "Olivette." When admitted, July 16, there was slight local temperature and some pain, both of which disappeared after wet antiseptic dressing. July 19th, patient had pains in abdomen, headache, and a temperature of 40° C. (104° F.). Plasmodium found in his blood, and cathartic and quinin given. Temperature has since been about normal. July 26th, fluctuation and pain in joint. By small incision evacuated 25 centimeters of pus, and removed a silk ligature, since which time the wound has been healing nicely.

CASE XXIV.—John Hendricks, aged twenty-three years; nativity, Indiana. Co. D., 16th United States Infantry. Wounded by Mauser ball on July 1, 1898. The wound of entrance is small, situated a half-inch below Pouparts ligament, and just external to the femoral artery. Wound of exit posteriorly, on a plane horizontal with entrance just above gluteal crease, and about center of buttock. It is somewhat smaller than the wound of entrance, but did not heal so rapidly. The course of the ball was through the hip-joint; a single perforating fracture must have been produced, as there were no symptoms referable to bone lesion after tenderness of the wound had disappeared. On July 2nd an area of hyperesthesia developed over the area innervated by the middle and internal cutaneous branches of the anterior crural nerve. This was so intense that the weight of a sheet caused burning pain; could bear no weight on this leg on admission. On July 21st, gentle massage, and continued, with daily improvement until now, all hyperesthesia has disappeared and the patient walks with comparative ease.

CASE XXV. — Michael O'Mealy, aged thirty-eight years; nativity, Ireland. Private, Co. A., 21st Infantry. Wounded, July 2, 1898, in left buttock; ball apparently still in body; no point of exit; sitting up; slight pain. July 20, 1898, no pain, but some spasm of muscles of leg. 21st, marked spasms of muscles of thigh, painful contractions requiring hypodermic of morphin. 22nd, some fever; feels weak; said he felt as if something had given way or broken about his hip. Evening, spasmodic pain more marked; profuse perspiration. 23rd, restless during the night; temperature this A.M. 29.7° C. (103.4 F.). Pain most marked along course of sciatic nerve, and internal pudic at greater sciatic notch; no tenderness of spine. 24th, spasmodic and painful contraction of leg muscles during the night, requiring large doses of anodyne; growing weaker; temperature, 38° C. (100.4° F.); pulse, 120, Wound apparently in good condition. Probe enters to a depth of 1¼ inches only, and directed downward and inward toward tuberosity of ischium. Evening, somewhat better, but the spasms are still marked. Later, temperature, 40.4° C.; pulse, 134, and spasms more severe. 9.15 P.M., incision made down to sciatic nerve, between tuberosity of ischium and great trochanter, where pressure seemed to be, but bullet was not found; recovered from anesthetic fairly well, but spasms soon returned as severe as they were before. 25th, 4.30 P.M., unconscious; temperature, 41° C.; thready pulse. Died at 5.40 A.M. Post-mortem examination ten hours after death. Large blister noticed at

left heel, above os calcis. A considerable quantity of brownish fluid passing from nose and mouth. Upon incision along the course of the wound, the ball, shrapnel, was found about 2½ inches below the skin, in the gluteus maximus muscle, a considerable distance removed from the nerve trunks. There was some discoloration of the muscular tissue in which the ball was embedded, and slight moisture of the part, but no suppuration. A piece of blue cloth, evidently from the uniform trousers, carried in by the bullet was removed from the wound. The ball was flattened to some extent on one side. Further examination showed marked congestion of the psoas muscle, and after removing the intestines from the abdominal cavity the congestion was found to extend the whole length of the muscle, and the muscle was completely ruptured diagonally across its fibers, at a point beginning at the second lumbar vertebra.

CASE XXVI. — Peter O'Connor, aged twenty-five years; nativity, Ireland. Co. D., 8th Infantry. Wounded, July 1, 1898. Bullet entered right foot 3 cm. below inner malleolus, passing downward and forward and out at middle line of sole, between metatarsal bones. Wound healed when admitted, July 16, 1898, but patient complained of chills or chilliness, and said he had been sick for a number of days. Temperature, 39° C. (103.3° F.); pulse, 104. Fever continued. Blood examined for malaria plasmodia; none found. 19th, complained of some pain in belly; no diarrhea; tongue coated; spleen enlarged. 20th, bowels moved three times to-day; stools of yellowish-gray color. 22nd, marked diarrhea; some cough, bronchitis; typhoid condition. 27th, bloody stools. 28th, another hemorrhage from bowels. 29th, delirious; another hemorrhage; pulse weak. Temperature at 10 A.M., 40.6° C.; pulse, 156. Extremities cold; failing rapidly. Died at 1.20 P.M.

CASE XXVII.—Martin Crowley, aged twenty-two years; nativity, Ireland. Co. D., 7th Infantry. Wounded, July 1, 1898. Bullet entered right hip about four inches below superior spinous process of ilium, outer side, and passed diagonally downward but inward to inner side of thigh, upper third. July 16th, wounds of entrance and exit in fairly good condition. No pain. July 21st, some pain in thigh and further examination showed a slight swelling; pulsation, characteristic thrill, and bruit of aneurism; probably communication between femoral artery and vein. July 26th, wounds healed. July 27th, complained of diarrhea and later in day had a chill, followed by fever and malaria, for which quinin was given, with diluted nitromuriatic acid. July 28th, less fever; quinin continued. July 29th, better; temperature and pulse normal. August 3d, doing well; aneurism continues about the same.

CASE XXVIII.—Tobias Wunder, aged twenty-nine years; nativity, Germany. Sergeant, Co. G., 6th United States Infantry. Wounded in calf of the left leg, the ball going through the leg transversely and penetrating the skin and superficial fascia for about three inches. The wound became infected throughout its extent, an abscess forming. This was opened on July 18th and dressed antiseptically. Continued to discharge pus until August 1st, when the whole course of the ball was laid open, the necrotic tissue removed, and wound placed in condition to heal by granulation.

CASE XXIX.—Henry Brightwell, aged twenty-three years; nativity, Georgia. Co. G., 25th Infantry. While lying down during the fight of July 1st he was struck by a missile which caused a ragged, lacerated wound upon the outer side of the left thigh, five or six cm. below the trochanter major. No wound of exit. When he was admitted the wound was about four cm. long and suppurating freely, and he complained of pain in his outer thigh muscles when he walked. The X-ray revealed a bullet about fifteen cm. above the external tuberosity of the femur. On July 30th pain had become worse and localized, and a small incision was made, until the fascia lata was opened, through which was removed a bullet about the size and shape of an incisor tooth. A small piece of the steel jacket still clung to the wedge-shaped front of the lead bullet. Both wounds are doing well and the patient has no trouble in walking.

CASE XXX.—Winifred Munson, aged twenty-one years; native of Kentucky. Co. C., 6th Infantry. While charging El Caney, July 1, 1898, he was struck by a missile, which entered the sternum to the left of the midline, about the junction of the manubrium and gladiolus, making a clean, round hole without comminution, passing thence backward and to the right to an exit just below the neck of the scapula, the latter being a lacerated wound two centimeters in diameter. He advanced fifty yards and then sat down. A comrade removed his clothes, and blood came in "spurts" from the front, and continuously from the exit wound, and blood poured from his mouth. A first-aid bandage stopped external bleeding, after which he was neglected, being without food or attention until removal, thirty-six hours after, to the Division Hospital. For several days he spit fresh blood when he coughed, and this was followed by clotted blood. July 16th, before admission, he had a severe hemorrhage, losing fully 7 ounces. When admitted, July 16th, the entrance wound was about healed, and the exit was covered with granulations. His temperature was normal, but a cough without expectoration troubled him. The lung seemed to have only a slight diminution in function. On the 21st his temperature rose, and until August 1st remained between 38° and 39° C. (100.5°–102.2° F.); his respirations were rapid and painful, and there was dulness in the middle lobe of the right lung. About August 1st his temperature and other symptoms disappeared, and he improved. There appeared a pleuritic effusion, which reached the fifth rib in front and the inferior angle of the scapula behind.

CASE XXXI.—John K. Emery, aged twenty-three years; native of Georgia. Co. F., 13th United States Infantry. Wounded, July 1, 1898. Wound of entrance through the ensiform appendix of sternum; of exit in eighth interspace between anterior and mid-axillary lines. Course of wound was through the right lung. The injury produced hemoptysis, which lasted several days. Wounds of entrance and exit small, and healed rapidly. On admission he complained of considerable pain over

wound; examination showed slight pleurisy; side was strapped and condition improved. Since then has been steadily improving.

CASE XXXII.—Edward Culver; native of the Indian Territory. Troop A., 1st Volunteer Cavalry. Wounded by Mauser ball, on June 24, 1898. The ball entered the chest in fourth interspace in anterior axillary line of left side. No wound of exit. X-ray shows the ball lying across the 4th and 5th ribs of opposite side about two inches from vertebra. Both lungs were perforated, the ball going immediately behind the heart. The wound of entrance was about one inch in diameter, the ball having entered flatwise. Hemorrhage was quite profuse. Hemoptysis began at once and was also quite profuse; continued about fifteen days. Has been walking around since July 4th. Wound of entrance was packed with gauze; it granulated quickly and was completely healed on August 1st.

CASE XXXIII.—William F. Brewer, aged 26 years; native of Ohio. Company E., 17th U. S. Infantry. Concussion of brain and spinal cord by explosion of shell. Was making a charge when there was a violent explosion of a shell a few feet to left; was rendered unconscious and remained so about three hours. On regaining consciousness attempted to rise but vomited blood and contents of stomach, and could not support himself on left leg. Was carried to hospital at Siboney, and then sent North on the "Olivette." Had considerable pain all the time. Examination shows area of tenderness over lumbar region of cord and muscles of thigh and gluteal. Was confined to bed but improved slowly. Potassium iodid in 1-grain doses had little or no affect. Actual cautery was applied in several locations with great success, the function of leg being almost completely restored in about a week. Massage was painful at first but later was of some assistance in treatment.

THE WOUNDED BEFORE SANTIAGO.

[Special Correspondence of the MEDICAL NEWS.]

IN CAMP BEFORE SANTIAGO DE CUBA,
July 31, 1898.

ON the 25th of June last the Army landed at Baiquiri. Since that date the rapid succession of events, the fatigues and privations of an active campaign under extraordinary conditions have prevented literary work. From the date of landing until the fall of the city of Santiago de Cuba the troops were under a continuous strain of marching and fighting. For this labor the protracted delays after embarkation at Tampa had, I believe, to a considerable degree unfitted them. Two weeks on shipboard, on transports hastily improvised, had softened the muscles of the men, the majority of whom went to sea for the first time in their lives. But although the flesh had been somewhat weakened the spirit and temper of the troops had not been appreciably impaired. Immediately after the landing of the 2d Division the march on Santiago began. The route, a mere bridle-path overgrown with a tangle of luxuriant vegetation, led around the coast hills westward through the small harbor town of Siboney, which fell into our hands on the following day without a struggle. The Spanish garrison, surprised, lost no time in making a hurried retreat leaving much valuable property to fall into the hands of the Americans. On the march through the jungle many of the men fell out of ranks from heat and the overpowering sultriness of the air. No casualties occurred, however, as the men so disabled straggled into camp later in the cool night air.

On the following day the cavalry division, dismounted, took the lead, and first encountered the Spanish in considerable force posted on a hill overlooking a rocky cañon through which our men were advancing. Here the sharp action of San Quesada followed in which the regiment of "Rough Riders" and a brigade of regular cavalry suffered loss. The wounded in this battle received prompt first-aid treatment, often under fire, by their regimental medical officers, and, on the same day, were carried back to Siboney on litters by relays of troopers, and during the night the greater number of them were transferred from the extemporized receiving hospital on the beach to the transports designated to receive them. This proved to be a labor of difficulty, as, there being no wharf, all landings had to be effected by beaching the ship's cutters employed in embarkation. As in this action the enemy did not use artillery, the wounds of our men were all inflicted by the jacketed bullet of the Mauser rifle, a missile of .26 caliber, which caused small, clean-cut injuries without laceration or crushing of bone. Three days after the application of the Esmarch dressing to the slighter injuries, I am informed that the greater number of them maintained an aseptic condition. As regimental surgeons had taken the field without their medical and surgical chests no major operations could be done in the lines. After the transfer to the transport, where all facilities had been provided, this work was promptly begun, and permanent dressings applied. The number of the wounded requiring surgical aid footed up about one hundred. Litters for removing the wounded from the field in the absence of the regulation stretcher were built from saplings bound with strips of canvas over which shelter-tents and blankets had been stretched effectively. A man with a perforation of the liver and kidney thus transported reached the hospital-ship without further injury, a journey of five miles or thereabout. The prompt aid rendered the wounded on this occasion, and in general, their immediate removal from the battle-ground, doubtless prevented many fatalities. Of sixteen men sent down from the regular brigade on litters, including the one referred to above, all had survived at the date of their departure from the harbor for a Northern port.

KAPPA.

MEDICAL PROGRESS.

Volvulus of the Small Intestine.—THORBURN (*Med. Chronicle*, June, 1898) says that volvulus of the small intestine may not be so rare an occurrence as is generally supposed. The ease with which an intestinal coil can turn on itself would doubtless often produce the symptoms of strangulation were it not for the fact that it can in most instances untwist with equal facility. Treves has adopted the hypothesis of a temporary and spontaneously

reduced volvulus of the small intestine to explain those cases of acute intestinal obstruction, occasionally recurrent, which recover without surgical interference, but he has had no ocular demonstration of the accuracy of this supposition. Thorburn was called to operate upon a patient who suffered from acute intestinal obstruction with great prostration. He found just such an acute volvulus of the small intestine as Treves has presupposed, and it was untwisted almost without any manipulation. A stool followed this brief operation by about three hours, but unfortunately the patient did not survive more than nine hours. In two other cases mentioned by the writer there was gangrene of the small intestine without any assignable cause, and these were considered by him to be cases of volvulus. One of the patients died after an operation, and the other without operative effort having been made. All of the patients were men, and in all cases there was great prostration, and great pain.

Are There Germs in the Normal Puerperal Uterus?—BURCKHARDT (*Centralbl. f. Gynek.*, July 2, 1898) having noticed how often in a normal convalescence from labor the cervix was still open on the tenth or twelfth day, and that there was also at this time a yellowish-brown discharge mixed with bits of tissue, made a series of examinations to determine the bacterial condition of the puerperal organ. He found that the cervix was always open enough to admit the finger as late as the twelfth day, and that if it appeared not to be so, the constriction was apparent, not real, and disappeared if the body of the uterus was lifted up straight. The inner surface of the uterus he found smooth. It felt like a granulating wound, while the placental attachment was easily made out by its greater roughness. Examination of the fluid taken from the upper portion of the uterine cavity showed it to contain germs in thirteen out of fourteen cases. These were all patients who were making a good recovery from labor, without fever or other abnormal symptom. "The puerperal uterus," says this writer in conclusion, "must be looked upon as an open wound. In the first days after labor it is free from germs, but little by little they spread over its surface as they do over that of every other open wound, the cervix offering little resistance to their progress. An internal os which readily admits the finger can hardly be said to oppose the passage of a microbe. But at this period the condition of the inner surface of the uterus is such that no evil follows this microbial growth except under adverse circumstances, such as the retention of secretion."

Surgical Treatment of Duodenal Ulcers.—WANACH (*Arch. f. klin. Chirurg.*, vol. 56, p. 425) says that the perforation of a duodenal ulcer at a place where the gut is not covered by peritoneum gives rise to a retroperitoneal abscess which may remain for a long time unobserved. The purulent collection may extend upward to the neck, or downward to the inguinal region, breaking in the same situation as the usual psoas abscess. The favorite site for the perforation of such an ulcer, however, is the anterior wall of the first horizontal portion of the duodenum. The result is either an encapsulated or a general peritonitis. The encapsulation of such a peritonitis is not so favorable as the same process in other places, since the abscess does not usually stop there but goes on to the formation of a subphrenic abscess, which either before or after operation usually results in the death of the patient.

If a general peritonitis follows the rupture of the ulcer the determination of the origin of the inflammation is generally difficult. The usual mistakes are those of attributing it to an ulcer of the stomach, or to appendicitis, or of setting it down as an idiopathic peritonitis. If found and closed there is a good chance for the patient to recover, and the operator should, therefore, use all diligence to accomplish this end in obscure cases of peritonitis. Wanach mentions a case of his own in which he opened the abdomen supposing that he had to do with an appendicitis. Upon learning his mistake the real perforation in the duodenum was located, and closed by serous suture of the intestine and mesentery. The patient recovered.

Treatment of the Stump of the Appendix.—HAGGARD (*Jour. Am. Med. Assoc.*, June 4, 1898) finds that there is good reason for abandoning entirely the original practice of ligating the stump of the appendix. He says that it should not be treated as if it were a pedicle, but as if one were dealing with the end of the intestine, as in a lateral anastomosis. He therefore follows the practice of Deaver, which is applicable in cases in which the appendix is necrotic, as well as in those in which it is sound, and which is especially useful in cases in which it is changed into a dense cord. The details of the procedure are thus given: "After freeing the appendix from adhesions and meso-appendix, the cecum is stripped of its contents and grasped between the fingers and thumb of the left hand; the appendix being held up with forceps by an assistant, is then cut off flush with the colon. The rent at the site of its former junction is united by continuous Lembert sutures, just as in a gunshot or stab wound of the intestines, while the cecum is still held securely with the left hand. The sutures may be disposed in two layers, the first uniting the edges of the wound, the second approximating the peritoneal covering of the cecum over it."

Hernia of the Ovary.—BROWNE (*Maryland Med. Jour.*, July 9, 1898) reports two cases of hernia of the ovary. Both were inguinal in situation. Both patients had borne a number of children. In one case the ovary was irreducible, and the diagnosis was not made until the dragging of the cornu of the uterus into the opening of the hernial sac caused strangulation and rendered an operation necessary. In the other case the ovary was reducible, and the diagnosis was correctly made, but a truss failed to keep the displaced organ in position and operation was resorted to for the relief of pain. Laparotomy was performed upon both patients, and both recovered. The ovary which had produced strangulation was removed. The other was reduced into the abdominal cavity, and gave the patient no further trouble.

THE MEDICAL NEWS.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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Address the Editor: J. RIDDLE GOFFE, M.D.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK.

Subscription Price, including postage in U. S. and Canada.

PER ANNUM IN ADVANCE $4.00
SINGLE COPIES 10
WITH THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, PER ANNUM 7.50

Subscriptions may begin at any date. The safest mode of remittance is by bank check or postal money order, drawn to the order of the undersigned. When neither is accessible, remittances may be made, at the risk of the publishers, by forwarding in *registered* letters.

LEA BROTHERS & CO.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK,
AND NOS. 706, 708 & 710 SANSOM ST., PHILADELPHIA.

SATURDAY, AUGUST 13, 1898.

THE ARMY MEDICAL INVESTIGATION A FARCE.

GREAT chagrin and keen disappointment are being felt by all interested in the reputation of the medical arm of the service by the autocratic way in which the head of the War Department has dismissed the case of the transports "Seneca" and "Concho" which recently brought sick and wounded soldiers home from Cuba in a condition of wretchedness and neglect. Serious charges of incompetency and neglect of duty by the officers in charge of the commissary and medical supplies of the army of invasion at Santiago have also been made and the incompetency there shown has been charged in some quarters to lack of administrative ability on the part of the Surgeon-General of the army. In answer to these charges Surgeon-General Sternberg declares that he is not responsible and to vindicate himself and his subordinates demanded of the War Department an official investigation. This demand of General Sternberg has been met by the cavalier statement of the Secretary of War that in the transportation of the troops and in the campaign against Santiago there was no neglect and no incompetency; that hunger, sickness, and suffering are incidents of war and whatever has happened was due to unforseen circumstances and no one is to be held responsible.

Is no one responsible for leaving the medical supplies at Tampa when the transports sailed for Cuba? Is no one responsible for the fact that when the supplies did arrive off the Cuban coast they were not landed but carried back to Florida on the return cruise? Is no one responsible for the fact that while our soldiers on the fighting-line were without food and the ordinary comforts of a soldier's life a whole shipload of supplies was left rotting in the hold of a ship at anchor off the coast? Is no one responsible for the wholly unnecessary suffering, want, and hunger experienced by our wounded soldiers, so graphically described by our special correspondent in the MEDICAL NEWS of last week? Does the Secretary of War think for one moment that such flippant explanations explain anything, or satisfy the indignant but long suffering friends of the soldiers that these horrors will not be repeated? No.

Does he imagine that the thin coat of whitewash applied by his investigator Heyl over the "Concho" case can cover up the flat contradiction therein contained of well-attested facts, the avoidance of other charges or the implied confession of it all when he asserts that these abuses will not occur again?

Is General Sternberg going to be satisfied with this farcical procedure? We hope not—he owes it to himself, to his department, and to the army of faithful and efficient officers in the medical arm of the service that no part of this responsibility shall be allowed unjustly to rest upon the medical officers. The whole truth should be brought to light and responsibility fixed by a prompt, impartial, and searching investigation.

THE CAMP AT MONTAUK AND QUARANTINE.

THANKS to the harmonious cooperation of the Marine Hospital Service, the State Quarantine, and the Medical Department of the Army, a well-devised and systematic arrangement for preventing an invasion of yellow fever has thus far been entirely successful. Since the prompt and complete suppression by the Marine Hospital Service of the outbreak of the disease at McHenry, Miss., the weekly bulletins have announced that no new cases have appeared at any point within our borders. The number

of soldiers and civilians returning from Cuba has been comparatively few, and the stringent and impartial quarantine rules have been efficient in protecting every point of possible invasion. The bringing home of General Shafter's entire army, however, forces the yellow-fever question into unexpected prominence and necessitates a readjustment of quarantine rules to meet the new situation. Yellow fever, as existing in the army at Santiago, was at first extremely mild and the mortality slight, but in the daily reports from the front it is noticeable that the number of deaths from this cause is steadily on the increase, thus confirming the opinion of experts that the disease would become more fatal as the season advanced. It is certainly inevitable, in spite of the greatest care and supervision on the part of the inspection officers at the point of departure, that yellow fever will accompany this army in its removal to its northern camp. To detain the crowded transports at New York quarantine would not only be an act of cruelty but suicidal in the highest degree. It has, therefore, been decided by the Government to declare the camp at Montauk a quarantine detention-camp, and to send the transports directly there instead of allowing them to enter New York harbor. This decision is eminently wise, and dictated by every sentiment of humanity and consideration for the afflicted soldiers.

Previous to the issuance of the orders to bring General Shafter's army home, the cavalry regiments at Tampa and Fernandina had been commanded to move at once to Montauk Point. This order was promptly executed, and the troops were landed at their destination. The situation thus presented is a serious one, and the injustice of placing in one camp soldiers who have not been subjected to infection, and those who have, is apparent to the most casual observer. It can be safely managed, however, with proper attention to details. With sufficient distance, and an impassable barrier between the two divisions of the camp, reinforced by strict quarantine regulations, comparative safety may be secured. The handling and the storing of supplies unloaded from trains should be accomplished by a force detailed for this special work, and kept carefully free from infection. Supplies sent to the patients in the hospital camp should be distributed in packages, the containers of which can be promptly destroyed or easily disinfected. This refers to paper wrappers, potato-bags, milk cans, etc., etc.

Whatever arrangements the authorities may make to prevent the spread of infectious diseases among the soldiers confined in this camp, one thing is certain —that quarantine regulations should be sufficiently stringent to prevent their extension beyond the boundaries of the camp. The army at Santiago was inoculated with yellow fever by criminally allowing the refugees to intermingle with the soldiers and infect their ambulances and commissary wagons. The danger now is that as eager a horde of friends may invade the camp and kindle a widespread epidemic by bearing to their respective homes the germs of disease. The quarantine regulations for this camp cannot be too stringent for the safety of the country, and should be administered with the greatest circumspection and impartiality to the last detail.

It is a gratifying assurance to know that the Marine Hospital Service, whose officers have been especially trained in quarantine matters, are to have charge of the quarantine regulations connected with the transportation of the troops. Not only is a careful inspection to be maintained at the point of embarkation for the purpose of separating from the main body of the army cases of infection, but an officer of the Marine Hospital Service will accompany each ship for the purpose of assisting in isolating at once any case which may break out during the voyage, and personally direct the management of these cases upon arrival at destination, as well as to certify to the healthfulness of the ship. These officers aboard ship will have absolute supervision and medical control of the ship's crew, and lend such assistance to the army surgeon in charge as may be desired.

Administrative ability of the highest order will be required to efficiently enforce the quarantine regulations at Montauk. The management of this whole affair and the steps taken to secure the country against infection from this center of dissemination will be watched with a jealous and critical eye.

MODERN SURGERY IN WAR.

THE *British Medical Journal*, in a recent editorial upon this subject, announces the fact that it has been found possible to bring home some of the wounded troops from Egypt without changing the aseptic

dressings applied when the wounds were first treated. It regards this, and justly so, as a triumph of good surgery and good organization, and it proves that military surgery has shared to the full in the remarkable advances in surgical ideals and methods which the present generation has witnessed.

The editor then briefly reviews the advance in surgery from the former ideal, when it was the wish and gratification of the surgeon to have the dressings rapidly soaked with discharges from the wound, in the form of what was then regarded as "laudable pus." In the next stage of advancement chemical antiseptics were freely used for the purpose of destroying all forms of infective life as well as in directly irritating the wound to more abundant secretion. At the present time the highest aim of wound-treatment is to see that Nature is left to herself. As little as possible is done to wounds, whether by antiseptics or by manipulation, with the intent of securing a maximum of rest and a minimum of pain and fright to the patient. If by this means the wound is left clean and at rest, Nature will carry on the healing process to a successful issue.

In order that these principles of surgery may be put in force in the present campaign, the American soldiers were supplied with simple antiseptic bandages, to be applied at once to whatever wounds were received. It was hoped that this precaution, taken to prevent the access of bacteria and so preserve the wound in an aseptic condition, provided the missile or weapon did not carry infecting germs and distribute them in its course, might prove efficient in obviating the necessity for further surgical interference. The small-bore projectiles with their high velocity and clean-cut holes make simpler wounds and permit of this treatment reaching such a degree of perfection as to obviate the necessity of the wound being dressed for many succeeding days, and frequently to permit of its complete cicatrization without molestation. How far the application of this principle in the present war has prove successful, we shall soon learn. The inadequate supply of first dressings and the impossibility of securing complete rest to wounded parts by reason of the inefficient ambulance service due to impassible roads have marred greatly the value of observations along this line of enquiry.

The two cases of injury which occurred on board the flagship "New York" at the bombardment of San Juan, are impressive examples of the success of this treatment. In one case the bony structures of the elbow-joint were completely carried away by a fragment of shell, and in the second there was a compound comminuted fracture of the left femur. Both cases were promptly dressed asepticly by the fleet-surgeon, and complete rest secured for the members by the application of plaster-of-Paris dressings. In this condition the men were transferred to the ambulance-ship "Solace" and later placed in the naval hospital at the Brooklyn Navy Yard. Up to the seventh day the pulse, temperature, and general condition indicated that the healing process was going on satisfactorily, and the original dressings had not been molested.

INTESTINAL AUTO-INTOXICATION.

Intestinal auto-intoxication is a surgical condition which has been for the most part relegated to the field of internal medicine, and oftentimes in the conduct of his operative cases the surgeon, having placed it in this category, dismisses all thought of it from his mind. The principle of intestinal intoxication is familiar enough, and is regularly referred to by the bacteriologist, the pathologist, and the lecturer in surgery in illustrating an intoxication. Yet the surgeon allows its application in surgery to end here, and thereby may fail to bring under this classification a certain recent laparotomy case that is doing badly, a case where the pulse is still up on the third day, the temperature has reached 100° F., the abdomen is somewhat sensitive, the patient continues to vomit her food, and the bowels do not move. The post-mortem findings are slight, yet a reluctant diagnosis of peritonitis is made as a cause of death, and the surgeon is totally at a loss to know why his patient should have had peritonitis.

His patient is suffering from an intestinal auto-intoxication which passes over into a true sepsis, and the poison which overwhelms such a patient is not from without but from within the intestine itself. Secondary to a persistent reflex paralysis of the motor function of the intestine by shock and to an alteration in the intestinal function, there results both an increased production and a failure to eliminate toxic materials. Consequently the leucomains and the ptomain, or toxalbumin, products of the

putrefactive bacteria are absorbed into the circulation and transported to distant parts to overwhelm the system and produce the constitutional symptoms that have already been mentioned.

The intestine is often the seat of such a disturbed metabolic process apart from any operative procedure. Excretory products poisonous to the system are regularly formed in the intestine, yet normal, regular action of the bowels carries this away as excrementitious material without damage to the system. Should the regular excretion of this material cease, as in constipation or in intestinal indigestion, it is absorbed and gives rise to the usual symptoms. In post-operative enterosepsis, however, the intestine has not been satisfactorily emptied and added to the mere retention of toxic materials regularly formed, there is a paralyzed function, with a consequent increase in fermentative and putrefactive decomposition, a lessened intestinal antisepsis, and an increased absorption. The intoxication soon passes over into a true sepsis, and the patient's history is short.

The condition is recognized by most surgeons as a grave one when it arises, but the reasoning as to its origin seems to be bad, and refuge is too often taken in the comprehensive diagnosis of peritonitis. When the condition is better understood more care will be given to the preparation of the gastro-intestinal tract previous to operation, and less reliance placed upon the single cathartic. It is surprising that a subject of such importance should have no space in the text-books on surgery, and should appear so seldom in periodic literature.

ECHOES AND NEWS.

Sir William Broadbent Honored. — The Queen has appointed Sir William Broadbent, as one of her Majesty's Physicians Extraordinary, in place of the late Sir Richard Quain.

Dr. Voisin Dead.—The death of Dr. Auguste Voisin, Paris, physician to the Salpétrière Hospital, is reported. Dr. Voisin had long been one of the foremost authorities on hypnotism and mental diseases.

Memorial to Mr. Ernest Hart.—The Council of the British Medical Association has decided to found as a memorial of the late Mr. Ernest Hart, a scholarship, to be called the Ernest Hart Scholarship for Preventive Medicine. The scholarship, which will be of the value of $1000, will be tenable for two years.

Medical and Surgical Relief at Santiago.—It is reported from Tampa that the steamship "Michigan" sailed August 1st direct for Santiago. She carried twenty-five army surgeons, and fifty Red-Cross nurses for the hospitals. She had also on board 150 tons of fresh beef in addition to a large cargo of general provisions for the army.

House Cleaning in Santiago.—Under the direction of Governor Wood, the cleaning of the city of Santiago is being pushed with great energy. Before the door of every house lies a great pile of rubbish which has been dumped into the street awaiting transportation and final incineration. More than two hundred carts are employed in transporting the dirt and refuse removed from the houses.

The Disinfection of Mail at Siboney, Cuba.—Louis Kempner, acting postal agent at Siboney, Cuba, announces that when despatching mail to the States, he is obliged to certify to Major La Garde that fumigation of all pouches and sacks has been effected in accordance with the requirements agreed upon by Colonel Greenleaf, chief surgeon, U. S. A., Dr. John Guiteras, Major La Garde, and himself.

Sick and Wounded Soldiers Granted Furloughs.—The Secretary of War has directed that sick and wounded soldiers sent to the hospitals shall, when able to travel, be granted by the attending surgeon one-month's furlough and transportation to their homes. Experience in the Civil War demonstrated the fact that soldiers thus granted furloughs convalesce much more rapidly than when retained in hospital or confined in camp.

The Hospital Ship "Missouri."—Through the agency of Miss Helen M. Gould, the hospital ship "Missouri" will be supplied by the War Relief Association with four electric kitchens. This device will avoid the heat which usually comes from the ship's galley and thus contribute to the comfort of the sick and wounded. To avoid dampness on the ship, each deck will be covered with a coat of asphalt three-quarters of an inch thick.

A Medical Millionaire.—News has recently come from Paris that Baron Henri de Rothschild, a member of the Paris branch of the famous financial family, has passed with distinction his final examination for the degree of Doctor of Medicine. M. de Rothschild's graduation thesis is founded upon observations made in a private dispensary, which he established for the treatment of infants, and was awarded a silver medal by the Academy of Medicine.

Patent Medicine for Soldiers.—An enterprising patent-medicine vender in Brooklyn, N. Y., conceived the idea of distributing through the chain-letter scheme, a wholesale supply of his concoction to the soldiers at Santiago. The first links of the chain of letters requested each recipient to send 10 cents wrapped in tissue paper to pay for 10-cents' worth of the greatly needed medicine, and to make and forward to two other benevolent persons two copies of the letter. The medicine was to be distributed by the Red-Cross nurses, and the International Com-

mittee of the Y. M. C. A., although neither organization was privy to the scheme. Owing to the prompt action of the Brooklyn Bureau of Charities, this fraudulent enterprise was nipped in the bud.

Yellow Fever and Quarantine.—No case of yellow fever has as yet entered any of the ports of the United States, and it is positively announced by quarantine officials that no alarm need be felt lest fever may creep in, in bringing the sick and convalescent soldiers from Santiago. All transports bringing soldiers from Cuba are subject to the same quarantine regulations as other ships, and the pilots and masters of vessels are forbidden to dock their boats or drop anchor without a quarantine certificate. In evidence of this, five blasts of the whistle must be given before docking or dropping anchor, as a signal that the certificate is in possession of the master of the vessel. Moreover, the Marine Hospital Service has stationed at Cuban ports inspectors to certify to the fact that every ship leaving port is free from infection.

The Danger from Cuban Cemeteries.—It seems that those who die in Cuba are destined to secure the peace and quiet of sepulture only so long as they have paid for the niche in which they are destined to be deposited. "Rest in peace" depends upon the affection and willingness of the dead person's friends to pay another's rent in advance. When the year expires, unless the yearly rental is forthcoming, the coffin is unceremoniously taken out and dumped on a convenient field without the sacred compo. The walls of these niches become masses of germ-laden masonry alternately warmed by the tropical sunshine, and kept moist by tropical dews. In other words, they are most favorably culture-beds, and containing as they do the foul germs of yellow fever, become when disturbed sources of widespread infection. The disinterring of the dead is not allowed in Jamaica. Four years ago, in one of the West-Indian islands belonging to Great Britain, part of an old cemetery was dug up which contained the graves of many yellow-fever victims. Yellow fever had been absent from that island for years, but immediately after this it appeared and made many victims.

Tax on Proprietary Articles.—On July 7th the Internal Revenue Bureau prepared a circular for the instruction of collectors regarding the use of stamps required by schedule B of the War Revenue law. Its publication was suspended at that time to permit manufacturers of pharmaceutical preparations to present arguments why, under the last clause of section 20 of the act, there should be a modification of the rulings relating to those preparations. The circular was issued July 27th, and after quoting the part of section 20 referred to, says:

"This is undoubtedly entitled to peculiar weight as a legislative interpretation of that part of schedule B which relates to medicinal articles. This office construes said clause as follows: 'Any medicinal article which is compounded by any formula, published or unpublished,' will be held taxable under schedule B, act of June 13, 1898, when it is:

"(1) Put up in style or manner similar to that of patent, trade-mark or proprietary medicines in general; or

"(2) Advertised on the package or otherwise as (A) remedies or specifics for any ailments, (B) as having any special claim to merit, (C) as having any peculiar advantage in mode of preparation, quality, use, or effect."

Various exceptions are detailed, and the following recapitulation of the ruling is given:

"All medicinal proprietary articles and preparations must be stamped. All medicinal patent articles and preparations must be stamped. All medicinal trade-mark articles and preparations must be stamped. All medicinal articles compounded by any formula, published or unpublished, which are put up in a style or manner similar to that of patent, trade-mark, or proprietary medicines in general, or which are advertised on the package or otherwise as remedies or specifics for any ailment, or as having any special claim to merit, or to any peculiar advantage in mode of preparation, quality, use, or effect, must be stamped.

"All medicinal articles or compositions whatsoever, which, if prepared by any formula, published or unpublished, or held out to recommend to the public by the makers or venders or proprietors thereof as proprietary articles or preparations, or as remedies or specifics for any disease or diseases or affecton whatever affecting the human or animal body, must be stamped."

CORRESPONDENCE.

OUR FOREIGN LETTER.

[From Our Special Correspondent.]

VIRCHOW ON TABES, SYPHILIS, ETC.—THE CONGRESS OF SCIENTIFIC INVESTIGATORS AND PHYSICIANS—A NEW SECTION—A LEGAL VICTORY FOR THE SELLERS OF SECRET PREPARATIONS—ARTIFICIAL FOOD PREPARATIONS AND TESTS FOR THEM WITH ANALIN COLORS—THE PRUSSIAN INSTITUTE FOR THE PASTEUR TREATMENT OF RABIES OPENED—LEYDEN'S ELECTION AS CORRESPONDING MEMBER OF THE INSTITUTE OF MEDICINE, PARIS, AND OPINIONS THEREON.

BERLIN, August 2, 1898.

AT the close of a recent discussion of tabetic optic nerve atrophy at the Berlin Medical Society, Professor Virchow, who almost never misses a meeting of the Society, of which he is president, took occasion to express his views on the etiologic connection between syphilis and tabes. He has very little sympathy with the opinion now so common all over Europe that tabes is practically always the result of syphilis, and seems to think that the two diseases are connected together by no closer bond than that of mere coincidence. Syphilis is common enough anyhow, but when a patient's history is taken almost with the persuasion that syphilis is to be found in it, then it is extremely easy to light on some dubious, suspicious statement of an unwitting patient who does not realize how significant his slightest expression may be taken to be, and make it a peg on which to hang a syphilitic anamnesis.

There are other pathological conditions which it has

become the custom to attribute to syphilis, aneurism, for instance, yet it is extremely rare to find an aneurism in a tabetic subject. Amyloid degeneration of the organs is so often connected with syphilis that the pathologist always looks for it in subjects that have been syphilitic, and finds it very often. Yet amyloid degeneration is not found oftener in subjects affected by tabes than in others. The so-called amyloid bodies of the cord that are sometimes found in old tabetics are not connected with genuine amyloid degeneration, and are only the expression, it would seem, of a sort of senile evolution.

It is now with syphilis as it was formerly with malaria; when the latter disease was very common it got to be the custom to attribute a great many pathological conditions to it. At present syphilis has become very common, and so not only tabes and general paralysis, but all the constitutional diseases whose origin is as yet obscure, are attributed to it. Leucemia, formerly thought to be surely post-malarial, now comes under the head of post-syphilitic. Diabetes mellitus and pernicious anemia share the same fate.

There is certainly not sufficient demonstration of the connection between tabes and syphilis, in Professor Virchow's opinion, to justify antisyphilitic treatment in the nervous affection. The jumping to therapeutic conclusions on grounds as insufficient as exist in this case smacks of the purest empiricism, and cannot be considered rational therapy. It is all the more to be deprecated since antisyphilitic treatment, if persevered in for any length of time, cannot but be productive of harm in the sclerotic process that has already invaded the central nervous system.

The next meeting of the German Scientific Investigators and Physicians will be held at Düsseldorf from the 19th to the 24th of September. This is the seventieth annual meeting, and its proceedings may be expected to be as interesting as they always have been, this being the favorite occasion for the announcement of medical discoveries made during the year. Despite Professor Edinger's letter of last year and the discussion of the question of dividing up the interest of the sessions by the creation of further special sections, a new section, that of the history of medicine, is to hold its first sessions this year. The section evil in medical-society meetings has come to be looked upon as inevitable, and so its progress, still further specializing all the information a doctor may get at such assemblages, goes on advancing from year to year untrammeled.

After having demonstrated some time ago at the Hufeland Medical Society that the anilin dyes as used in bacteriology would probably serve as useful tests for the organotherapeutic preparations, Professor Posner has now extended the sphere of his observations in this line, and made it include the artificial food preparations. Color reactions for starch and fat were in general use before definite color reactions for albuminous bodies would seem to be possible with the Biondi triple stain and with certain of the Ehrlich stains. Professor Posner proposes to continue the series of investigations in the hope to be able to supply the practitioner with a ready method of deciding whether an artificial food preparation really contains the ingredients claimed to be in it by the manufacturers, and whether they are present in the amounts claimed without recourse to chemical analysis. Professor Posner is especially of the idea that this method may enable physicians and apothecaries to decide whether samples of the preparation delivered at different times contain the same ingredients in the same amounts as were present in the original samples. The microscope is necessary for the decision of the question, and the specimens prepared may be kept as microscopic specimens generally for reference and comparison.

A recent decision of the German courts with regard to what are called secret preparations, the equivalent of our term patent medicines, seems of interest. It is considered in a certain sense a victory for the patent-medicine people, since it asserts the illegality of the police regulations that are not founded on the wording of the law regulating the selling of drugs by apothecaries. Apothecary shops are, however, in Germany distinctly a State institution; only one is allowed to occupy a certain district, and the prices of drugs are regulated to the minutest details, there being a whole series of prescriptions containing most of the drugs in ordinary use, which the apothecary must make up for the poorer classes at prices fixed by law, and in all cases there is a limit to the charges which may be made for any given amount of a drug and for its incorporation into a prescription.

The court reasserts in explicit terms the regulations to which apothecaries are already subjected by law, and it would scarcely seem that additional police ordinances were necessary. They are permitted to sell only remedies the ingredients of which are absolutely and definitely known to them. They may not sell a remedy, unless on prescription from a doctor, that contains any drug ordinarily not allowed to be sold without a prescription. (This includes some drugs that are ordinarily not considered to be poisons but still dangerous if allowed to be procured promiscuously, as chloral, cocain, and antipyrin.) Finally, all remedies must be sold at prices that do not exceed the limit of price set for their separate ingredients in the amounts dispensed by the laws regulating the sale of drugs. If a legal victory for the patent-medicine people in America could only lead to the reassertion of some such thoroughly sensible regulations as these I think that there are those in the profession who would be ready to begin the suit at once. Meantime, however, American legislators seem not to have the slightest inkling that great frauds are being perpetrated openly on the public, and that there is practically a conspiracy between manufacturer, seller, and advertiser to make the dear public pay for its whistle if he will have it in the shape of a worthless but much praised remedy.

During July the Institute for the Treatment of Rabies according to Pasteur's method, for which, as I stated some time ago, a special item was put into the budget of the Prussian appropriation for medical matters for this year, was opened. It is in connection with Professor Koch's institute for infectious diseases at the Charité, and individuals bitten by rabid or suspected animals are to be

treated free of charge. Where the rabies of the animal that has bitten is not clear the treatment is given only at the patient's request. According to the local papers, there were five deaths from hydrophobia in Prussia during 1897, of whom 2 were veterinary surgeons. As the Prussian East Sea (Baltic) provinces extend to the Russian line, this is not many considering the reported frequency of the disease in Russia.

The profession here in Germany has received with every mark of appreciation the recent honor conferred upon Professor von Leyden in his selection as corresponding member of the French Institute of Medicine. There are but eight corresponding members altogether, of whom, until his elevation some time ago to the rank of associate of the Academy of Medicine, Professor Virchow was one. Professor von Leyden succeeds to Professor Virchow's place. It is at once a high compliment to Leyden personally, and all the more so as his work has been almost entirely in the line of clinical medicine, for scientific honors do not usually come easily to clinicians, but to the lights in the theoretic branches of medicine, but the selection is more than a personal honor. As Professor Bonchard in Paris puts it, it is a mark of the high appreciation in which German medical authorities are held by French medical men, and a sign of the better feeling between the two nations that is coming as the result of the friendly relations of the rival scientists of the two countries.

TRANSACTIONS OF FOREIGN SOCIETIES.

Paris.

GLYCOSURIA DUE TO SOMATOSE—PNEUMOTOMY FOR GANGRENE OF THE LUNG—CONGENITAL ICHTHYOSIS—FATAL ULCERATION OF THE STOMACH AND SMALL INTESTINE OF UNKNOWN ORIGIN — ERYSIPELAS FROM EMPYEMA — SERUM-THERAPY OF MUSHROOM POISONING—LIVING GERMS IN LIQUID AIR—PROPHYLACTIC MEASURES FOR TUBERCULOSIS ADVOCATED BY THE ACADEMY — TREATMENT OF ERECTILE TUMORS BY INJECTION— CYSTOCOLOSTOMY FOR EXSTROPHY OF THE BLADDER — ABDOMINAL EXTIRPATION OF CANCER OF THE RECTUM.

AT the Medical Society of the Hospitals, June 17th, RENON said that he had had occasion recently to prescribe for a nursing mother, aged forty, of a neurotic type, who after a slight attack of influenza found her milk rapidly diminishing. He ordered somatose with the happiest result, as within a few days the milk was present in abundance. Three weeks later while somatose was still being taken the infant refused the breast. The urine of the mother was found to contain a considerable quantity of sugar. The somatose was discontinued, and the glycosuria ceased at once, as did lactation. Since the glycosuria did not exist before the administration of the somatose, and disappeared with its withdrawal, the conclusion that it was produced by it, seemed unavoidable. It has also been noted by Drews and others that preparations of albumose, especially somatose, are capable of producing glycosuria. And it has also been observed that the amount of sugar in the urine of diabetics, is greatly increased if large quantities of meat are ingested. If glycosuria in lactation is due to the formation in the breasts of more sugar than can be utilized, and is therefore secreted by the kidneys, its presence in the urine of this patient would simply mean that she had received more somatose than was indicated. At any rate the case is of interest as showing one of the dangers attending the use of this class of remedies, and one of the methods of keeping watch of their action.

LE GENDRE said that he had never observed glycosuria to follow the administration to nursing mothers of somatose, and since glycosuria was by no means uncommon during lactation, he thought that other instances of the occurrence of glycosursia after the use of somatose should be reported before the conclusion could be accepted that the drug was the cause of the appearance of sugar in the urine.

GALLIARD related the history of a patient upon whom a pneumotomy was performed for pulmonary gangrene. The patient was a man, aged fifty, whose expectoration was fetid, and in whom the physical signs pointed to a gangrenous focus in the center of an area of hepatization in the lower portion of the right lung. A hollow needle was introduced, but nothing but a little blood was withdrawn. Nevertheless, on the following day, parts of two ribs were resected, and the underlying lung was pierced by a cautery-point. The point opened at once into a focus of gangrene, and pus and bits of disintegrated pulmonary tissue escaped. After the operation, the fetidity of the sputum disappeared, but a fever which had not before existed set in, and the patient died in nine days. At the autopsy a purulent collection was found above the right side of the diaphragm, which had escaped observation, and there was besides, a pericarditis and a hypertrophy of the liver. Both lungs were thickly studded with tubercles.

NETTER said that whatever might be the effect of surgical interference upon pulmonary gangrene, thoracotomy was disastrous in the presence of dilated bronchi. Since it is not always easy to diagnose this condition, and since there might be besides multiple foci of gangrene, one ought, to say the least, to be guarded in his prognosis of the results of a pneumotomy for gangrene of the lung.

June 24th, THIBIERGE presented two patients aged respectively eighteen and fifteen years, the condition of whose skin suggested ichthyosis. It was especially thick in the articular folds. There was considerable hyperkeratosis and slight hyperidrosis of the hands, while the skin of the face was retracted, and there was marked ectropion, characteristics which served to differentiate the cases from true acquired ichthyosis. In both of these patients the lesions were congenital, though there was no history of similar trouble in either of their families. For these reasons the lesion was looked upon as a cutaneous malformation, to which the name of congenital ichthyosis is sometimes given, and which is often fatal at an early period of life.

At the Session of July 1st, LE GENDRE showed the stomach and intestines of a patient whom he had treated for some time, supposing him to have typhoid fever, al-

though the serum reaction was always absent. No other lesions were found at the autopsy, except numerous ulcerations of the mucous membrane of the stomach and small intestine, and which grew fewer the farther one proceeded toward the ileocecal valve, contrary to what one observes in typhoid fever. Most of them were situated in the duodenum, and only a few were in Peyer's plaques. The mesenteric glands were sound. The bacterial examination of the organs was reported at a later session. It showed a total absence of the typhoid bacillus as well as that of anthrax. There were found both in the ulcerations and in other organs, the colon bacillus, and a long bacillus of putrefaction, but as the autopsy was not made until twenty-four hours after death, the presence of the colon bacillus could scarcely be said to be the cause of the lesions.

MENETRIER reported July 8th, the accidental contraction of erysipelas from the pus of a purulent pleurisy. The operator in this case scratched his ear with his finger-nail, causing it to bleed. The following day erysipelas developed and spead over a part of the face and neck. An interesting point in connection with the matter was that the pus was found to be harmless to animals which were inoculated with it. But it has before been observed that streptococci which are without effect upon animals are sometimes capable of causing erysipelas of a virulent type in man.

At the Biological Society, June 18th, CLAISSE pointed out that there are two poisons which affect most of the persons who are injured by eating mushrooms. One, muscarin, acts quickly as a powerful gastro-intestinal irritant, but is rarely fatal. The other, phallin, acts more slowly, so that it may be twelve, twenty-four, or even thirty-six hours, before the choleraic symptoms which it produces manifest themselves. Poisoning by this substance is usually followed by collapse and death. It is chiefly found in the variety of mushroom called *Amanita phalliodes*. Claisse expressed the idea that it might be possible to develop a serum-therapy for poisoning by phallin, just as has been successfully accomplished for poisoning by other vegetable substances, such as racin, venin, and abrin. His experiments upon this subject have not yet been finished, but, he had found that both guinea-pigs and rabbits are extremely sensitive to phallin if it is injected subcutaneously, although they can eat it without any ill effects.

At the session of July 9th, D'ARSONVAL stated that he had found that immersion for seven hours in liquid air, of tubes containing the bacteria of yeast, diphtheria, and blue pus, in no way affected their virility. Other germs were mixed with the liquid air and kept at a very low temperature (—275° C.) for six days and nights without losing in any way their power of growth and reproduction. Neither did the exposure to this intense cold for long periods, affect, in their action upon living animals, the products of these bacteria, diastase, toxins, etc. Possibly there is produced around the germs an isolating envelope, which protects them from the effect of this great cold.

At the Session of June 28th, the Academy of Medicine adopted the report of its Committee on the Prophylaxis of Tuberculosis, also making the committee a permanent one.

Destruction of Tubercle Bacilli. — 1. The Academy confirmed its action of 1890, by which three prophylactic measures were advocated, *viz.*: (*a*) The collection of sputa in a pocket or vessel containing a little colored, five per cent. carbolic acid, or at least a little water; (*b*) the avoidance of dust by substituting wiping with a moist cloth for sweeping; (*c*) the boiling of milk before drinking it, no matter what its source. It was further recommended that the premises be disinfected after the death of a tuberculous patient, or even after a short sojourn by such a one. His personal effects, bed, etc., should also be disinfected.

2. Concerning the family the Academy recommended the continued practice of defensive measures from the time that tuberculosis becomes "open." It advocated as far as possible keeping pulmonary tuberculosis in a "closed" condition by an early diagnosis and suitable treatment.

3. In the army temporary restrictions should be placed about one in the first stage of the disease, while those whose sputa already contain Koch's bacilli should be under permanent surveillance.

4. In every school, store, and workshop the one in charge should be instructed in the few simple rules which are sufficient to limit the spread of this disease and should be held accountable for their observance.

5. The Academy recommended with reference to the hospitals: (*a*) The separation of tuberculous patients in their own wards and the establishment of special sanitaria for them; (*b*) Antisepsis in both general and tubercular wards, especial care being taken to suppress sweeping and in the washing of dishes. (*c*) The improvement of the character of attendants.

6. The Academy approved of meat inspection, but thought the total destruction of meat was unnecessary except in the comparatively rare cases in which the flesh of the animal is infected with tubercles, and there is fever. Stock-raisers were advised to use the tuberculin test to mark for speedy slaughter animals which have become infected.

Maintenance and Increase of the Powers of Resistance of the Organism.—The measures under this head related chiefly to the treatment of soldiers. It was advocated that they should be given greater air space, a more nutritious diet, and that enlistment, maneuvers, and changes of garrisons should be made as far as possible under favorable climatic conditions.

At the Session of July 15th, ANGER described the treatment of erectile tumors by the injection of solutions favoring coagulation. The fluid which he preferred for this purpose is composed of twelve parts of water, three parts of sodium chlorid, and five parts of tincture of the perchlorid of iron. From two to forty drops are injected in one or more places, according to the size of the tumor. This injection is not at all painful. It is made if possible into a vein. To determine with certainty that the needle is in a vessel, Anger uses a double

needle, inserting the first in various places until the blood flows out of it, and then making the injection through this needle by inserting into it the point of the smaller needle on the syringe.

One thing is very important, namely, to make firm pressure all around the tumor, as with a ring, for a few minutes during and after the injection, until firm coagulation shall have prevented the passage of clots, or the solution into the circulation. Palpation with the finger will show when the clot is firm. The tumor will swell for two or three days, and then gradually diminish in size. At the end of three or six months the injection can be repeated if necessary.

Tuffier presented at the Session of July 12th, a young man upon whom he had successfully performed a cystocolostomy for exstropy of the bladder. The patient had several times been subjected to a plastic operation without success. The bladder was separated from the surrounding tissue sufficiently to allow the implantation of the trigonum in the sigmoid flexure, the openings of the two ureters being included in the piece thus transplanted. The wound healed well, and four months after the operation there was no inconvenience to the patient other than the necessity of a stool five or six times a day. The abdominal wound had completely closed.

At the Surgical Society, June 22d Michaux spoke of choledochotomy with suture. He had performed this operation four times, and the successes thus obtained led him to dissent from the views recently expressed in favor of leaving the duct to granulate without suture. Doubtless if the operator foresaw an unpleasant result from a suture in a given case it should not be performed; and in other cases perhaps suture was impossible; but with these two exceptions, he advocated the suture of the duct, which he had not found as difficult as some have said.

At the Session of June 29th, Quenu said that he had formerly held the opinion that cancer of the rectum if low down should be extirpated by the anal route; if in the middle portion, by the sacral route, and if of the upper portion, by the abdomino-perineal method. Experience had inclined him more and more to the last-mentioned method, rather than to the sacral one, until now he had given the latter up entirely. Two objections have been made to the abdomino-perineal method. One is the formation of a permanent iliac anus, and the other is the gravity of the operative attempt. It has not yet been definitely settled, however, that an iliac anus is worse than a sacral one. As to the gravity of the operation, that cannot be denied, but there is reason to believe that with practice the mortality will be reduced until it shall not exceed that of extirpation of the uterus for cancer. Two conditions are essential to success: asepsis, during and after the operation, and control of hemorrhage. The first object is obtained by the closure of the anus in the beginning of the operation, thus enabling the operator to treat the rectum as a sterile tumor, until its removal; while the loss of blood is avoided by the ligation of both internal iliac arteries.

The first step in the operation proper is a median incision and the ligation of the internal iliacs. Before these ligatures are drawn tight, the pulsation in the external iliac is felt for, to make sure that it has not been included by mistake; if enlarged glands are present they are removed. Next, the intestine is divided with a cautery between two ligatures, and its upper end is fixed in a short incision to the left of the median line. The whole lower portion of the bowel is next freed from its mesorectum, the superior hemorrhoidal vessels tied, etc. The last step of the operation is the removal of the rectum thus freed through the perineal wound, and the closure of the abdominal wound. The perineal wound is left open, with a tube and gauze for drainage.

SOCIETY PROCEEDINGS.

BRITISH MEDICAL ASSOCIATION.

Sixty-sixth Annual Meeting, Held at Edinburgh, July 26, 27, 28, and 29, 1898.

THE PRESIDENT'S ADDRESS.

The opening address was delivered in McEwan Hall by the President, Sir Thomas Grainger Stewart of Edinburgh. He extended a cordial welcome to the Association and its guests, and expressed his high appreciation of the honor conferred upon him by his election to the presidency of the Association. He spoke of those members who had been removed by death during the past year, and paid a warm tribute to the memory of Mr. Ernest Hart, for so many years editor of the *British Medical Journal*. He then said that although the science or art of medicine has made enormous strides during the past few years, the members of the profession realize only too well its limitations and how far short it falls of an ideal. As an indication of the better understanding of causation and treatment it is only necessary to remember that since 1855 the annual death-rate in England and Scotland has decreased by more than one-fifth. Due to the efforts of the profession, too, tuberculosis is not the dread disease of thirty years ago, for carefully gathered statistics show that deaths from this cause have, during the interval, decreased by one-third. The public is gradually becoming educated to the importance of precautionary measures, and there is every reason to think that, from present appearances, as the years go by, the disease will become less and less common.

Referring to the attitude of the medical profession toward the national legislature, the speaker said that its duty is evident and should be exercised at all times toward the enactment of laws looking to the preservation of the public health. While, in their way, penalties for non-observance of health laws are well enough, the effort to instruct the people in all that pertains to the well-being of themselves and their children should be unremitting, for it is by such means that legislation will accomplish the greatest good. Willingness on the part of the laity to accept sanitary legislation, and to live up to its requirements, is based upon a proper understanding of just what these measures are to accomplish. Furthermore, legislative bodies should be educated to accept the advice of

recognized medical and sanitary authorities in the framing of laws designed to preserve the health of the people, in exactly the same way that they are biased by military or legal opinions in enacting laws in these departments.

He then called attention to the strong antivaccination movement in Great Britain, referring especially to the recent legislation on this subject in Parliament and to the statement by one of the minority members of the Parliamentary Committee to the effect that compulsory vaccination in Great Britain is dead and will remain so during the next generation. According to the bill introduced in Parliament during its last session, any person "conscientiously objecting" to vaccination may, by stating his objections before two examining magistrates, be made exempt. The speaker condemned this bill in unmeasured terms and referred sarcastically to the latitude allowed these faddists, who, from a sense of ignorance, are constantly endangering their own lives and those of their families.

Every effort should be made to extend our knowledge along the lines of advance and improvement. In every branch of medicine and the allied branches investigation is the order of the day, and at the present moment there is not a recognized medical center in the world wherein original researches are not being made. Empiric medicine and theories are largely things of the past, and while they well served their turn, the foundation laid upon them has resulted, and daily is resulting, in a broad and solid structure which is destined to grow and increase until such time as the last shadow of doubt will have disappeared.

While medical education in Great Britain has made great strides during the last few decades, it is to be regretted that the tendency still is to overburden the memory of the student with unnecessary details. All medical teachers should endeavor to instil the importance of mastering methods, rather than theories, and the curricula should be shaped to this end. Successful medical teaching can never be carried on except in connection with a great hospital, and bedside instruction, as now practised, should not only be continued, but amplified to the greatest possible degree. It is to be regretted that adequate facilities for post-graduate study have not yet been provided by the larger schools, but there is every reason to hope that this branch will be attended to in the near future.

The speaker then referred to the exceedingly satisfactory growth of the Association and to the good it had accomplished, and then spoke at some length upon the National Department of Public Health, suggesting where and in what manner radical improvements might be made. In conclusion, he again touched upon the relations which should exist between the physician and the public, and said that only when self is buried, and real or imagined wrongs put entirely in the background, will the science and art of medicine be given the recognition to which it is so justly entitled.

ADDRESS IN MEDICINE.

This was delivered by DR. THOMAS RICHARD FRASER, and was confined to an exposition of the advance which has been made along various lines since the Association met in Edinburgh twenty-three years ago. At that time, Dr. Warburton Begbie, who delivered the address in medicine, took for his subject, "Has the Practice of Medicine Made a Single Step in Advance since the Time of Hippocrates?" and answered the question in the negative. Since the date of Dr. Begbie's address, the speaker said, it cannot be denied that the steps forward have been many. Although so few years have elapsed, the increase in knowledge of the fundamental principles of chemistry, physiology, and morbid anatomy; of pharmacology, symptomatology, and diagnosis; of etiology and of treatment has been so great that the practice of medicine has been wholly removed from that empiric domain in which it rested during the lifetime of our predecessors, and now has reached that height where it may well be considered a science rather than an art.

After a warm tribute to those pioneers in the profession, whose work cleared the way for the present generation, the speaker referred to the instruments now in use—the hemacytometer, sphygmograph, and ophthalmoscope—which have so aided the diagnostician, and not only simplified his work, but placed it in a category from which mere guesswork has for all time been eliminated. Chemic examination of stomach contents and of the urine has also advanced the understanding of pathologic conditions to a marked degree, and the X-ray, though its application to injury and disease is yet in its infancy, has already proved a valuable adjunct to clinical diagnosis.

The ability to arrest and sometimes cure certain of the diseases of the nervous system, through the recognition of the fact that the etiologic factor is largely the presence in the body of toxic substances is most important, and the new doctrine is day by day being strengthened by the results of new investigations. The study of mental disease, too, has received a strong impetus recently through acceptance of the theory advanced by such well-known pathologists as Nissl and Van Gieson, that auto-intoxication from the intestinal tract is largely instrumental in their production. While further investigation must follow along the lines of the theory that auto-intoxication through the medium of a toxin contained in malignant growths is the factor principally concerned in the cachectic symptoms and fatal termination, rather than the degenerative processes in the tissues, *per se*, the work that has already been done in this direction is most encouraging, and there is every reason to hope that it will result in more perfect methods of treatment in the near future.

Bacteriology, of all the branches of medicine, however, has yielded the greatest discoveries. Only a few years ago it was universally accepted that the pathologic action of microbes in the system was due to their collection in the blood-vessels; or, perhaps, to their morbid action upon the products of digestion, thus robbing the tissues of necessary nutrition. The discovery of the complex poisons, or ptomains, which pathogenic germs give rise to in the body, however, and a careful study of the structural changes produced thereby, has revolutionized old theories, and placed this doctrine of toxic origin of in-

fectious disease upon a foundation which further investigation and study will render unassailable.

Closely following these discoveries it became known that under certain conditions it was possible to immunize the individual to the effects of these bacterial toxins, a fact holding close relationship to that so well-known, that one attack of certain of the infectious diseases confers immunity from subsequent attacks of the same malady. From this point serum-therapy has advanced along well-defined lines, and new methods and new discoveries are constantly being published by intelligent investigators throughout the world, so that scientific interest has been aroused to that extent that it is paralleled by no other discovery in the realm of medicine.

The speaker then somewhat minutely recapitulated the known conditions governing immunity against pathogenic infections, and ended by saying that even though much is to be expected from the action of serum-therapy, it will be necessary to more completely understand and control disease-producing germs before it will be possible to obtain serums of relatively equal immunizing power to the lymph used against smallpox.

ADDRESS IN SURGERY.

This was delivered by Mr. Thomas Annandale of Edinburgh, his subject being "The Present Position of Surgery." He considered it from three points of view—scientific, practical, and moral, and under the first head referred chiefly to the advances made in antisepsis. While the principles of this branch of surgery are now well established and understood, it is to be remembered that pathogenic organisms enter the body through other channels than breaches of the surface, and in consequence of this bacteriology rises to a point of great importance in connection with the results of injuries and surgical procedures. It has been shown that the ill effects are due to the toxins produced in the tissues by these micro-organisms, rather than to the specific action of the germs themselves. The study of physiologic chemistry and the application of its results undoubtedly will do much to throw light upon processes which as yet are unknown to us, thus allowing of a form of treatment which will be based upon sound scientific grounds. Until the origin and behavior of the various toxins have been learned, the application of antitoxin principles must necessarily be largely empiric. The subcutaneous injection of so-called antitoxic serums in connection with surgical procedures has met with uncertain results. In the speaker's own experience he had known of a number of patients to recover under this form of treatment from severe attacks of septicemia, while other patients, exactly as ill from the same cause, had recovered without such measures having been taken.

The question of the physiologic relation between different organs and tissues is also a matter which should be carefully studied. The relationship existing between the ovaries and the breast, for instance, possesses great interest to the surgeon. Acting upon this suggestion, he had removed the ovaries in three instances from women suffering from inoperable cancer of the breast, and while the disease was not cured, the removal of these organs markedly influenced the local breast condition for the better.

The use of thyroid extract in the treatment of myxedematous conditions has resulted in great benefit in many cases, and while this form of organotherapy has resulted in many disappointments, there can be no question that future developments will be productive of much good. The method of injections of the mixed toxins of streptococcus and prodigiosus in the case of malignant growths give rise to the hope that much good will ultimately result from this procedure, but it must not be forgotten, when reading the favorable published reports of these cases, that sarcomata and other growths occasionally decrease in size and even disappear without apparent cause. It is impossible to assign any reason for this decrease or disappearance except that of physiologic or bacteriologic change beyond our power to understand.

Under the second head of his address the speaker said that the best definition which characterizes the practice of surgery at the present day is *simplicity*. Leaving out the question of asepsis, which, of course, is taken for granted, this simplicity includes the technic, the instrumental assistance, and the after-treatment. As opposed to the surgery of even a decade ago, the effort and aim now is to leave as much as possible to Nature. It has taken a long time for surgeons to appreciate the importance of this step, but now that they have learned their rôle, the results have fully warranted their position.

Modern surgery has advanced also along the lines of expansion, to say nothing of the increased number of those who practise it. Delicate operations, which a few years ago would have been deemed impracticable or impossible, are now performed, and with the happiest results. The line which formerly was drawn between the duties of the general and the gynecologic surgeon has now almost disappeared, for it is appreciated that the training necessary to produce the one is equally applicable to the production of the other.

With regard to anesthetics, in the opinion of the speaker, chloroform continues to be the safest and most satisfactory agent in connection with surgical operations, but it should be administered only by a competent, well-trained anesthetist, and its effects should be carefully watched.

In treating of the moral aspect of surgery of to-day, the speaker said that while it is lamentable that the high standard which it so necessary for the members of the profession to set for themselves is ignored by many, the true cause of the evil can be traced to three factors: (1) Active competition, (2) untrained specialism, and (3) society demands.

Section on Obstetrics and Diseases of Women.

First Day—July 27th.

The President's address was delivered by Dr. Alexander Russell Simpson. He welcomed the members and foreign guests in behalf of the oldest chair of midwifery in the world, it having been established in 1726. He then spoke at some length of the history of midwifery

and its advancement, and of the very important part it plays in general practice. Many forms of disease may come and go, but midwifery goes on forever. He said that it receives but little attention in the schools as compared with that given to medicine and surgery, and that he hoped soon to see it occupying the position it deserves.

PROFESSOR W. S. PLAYFAIR of London proposed a vote of thanks to Professor Simpson for his address, and said that he agreed with him thoroughly in regard to the teaching of obstetrics. He had always been teaching obstetrics, and had insisted on the inadequacy of the teaching and had tried to bring about a reform in that respect.

PROFESSOR MARTIN of Berlin seconded the motion, and said that he considered it of utmost importance that every physician should be well fitted for obstetric work.

DR. CULLINGWORTH of London then opened a discussion on

THE SURGICAL TREATMENT OF PELVIC INFLAMMATION.

He discussed the following points: (1) The indications for operative interference in pelvic inflammation; and (2) the choice of time for operation. Under the first head he first spoke of pelvic cellulitis. If unattended by suppuration no interference is necessary; when an abscess has formed, the pus should be evacuated as soon as it is discovered and is within reach. The indications in pelvic peritonitis cannot be stated so categorically. The personal experience of the speaker has led him to regard the following signs and symptoms as being strongly suggestive of the need for operative interference: (*a*) The presence of a definite, more or less fixed, irregular swelling in one or both posterior fossæ of the pelvis, larger than could be accounted for by a thickened tube matted together with a normal ovary. If this increases in size in spite of local treatment, the suspicion of pus gives way to certainty. (*b*) The occurrence, during an attack of acute inflammation of the uterine appendages, of a tense globular, cystic mass in the pouch of Douglas. (*c*) The outbreak of recurrent attacks of pelvic peritonitis in a patient known to have had an acute salpingitis, in whom there has remained a quiescent but obvious swelling in the posterior part of the pelvis. (*d*) The sudden appearance of symptoms of general septic infection in a patient with a more or less definite history of pelvic inflammation and a localized swelling above the vaginal roof. Such cases urgently need surgical intervention. In non-suppurative inflammation interference is indicated if there is reason to fear complications or if the circumstances of the patient are such that it is necessary to restore her to health quickly.

With regard to the choice of time for operation, it is no doubt wise, in most cases, to wait until the acute symptoms of localized peritonitis have subsided. Exceptions to this rule frequently occur, as when there are indications of acute suppuration and where the symptoms point to septic absorption.

DR. DOYEN of Paris read a paper on

(1) ABDOMINAL HYSTERECTOMY AND ITS INDICATION (TUMORS, SUPPURATION, ETC.); (2) MODIFICATION OF THE TECHNIC OF VAGINAL HYSTERECTOMY.

He said that abdominal and vaginal hysterectomy are not competing methods, but that each has its indication. He then explained the technic of the two methods and exhibited a clamp forceps, which he had devised, with which to crush the pedicle, thus preventing hemorrhage.

DR. JACOBS of Brussels read a paper, entitled

THE VAGINAL AND ABDOMINAL WAY.

After very careful study of several hundred cases the speaker had come to the conclusion that the danger is no greater in operating by one method than by the other. He had operated by the vaginal route 432 times, with 424 cures and 8 deaths; by the abdominal route 98 times, with 95 cures and 3 deaths.

DR. LANDAU of Berlin read a paper on

VAGINAL CELIOTOMY.

The author had operated in this way on 58 patients, opening multilocular cysts and the peritoneal cavity, and all had made uninterrupted recoveries. Those patients who have been operated on for non-inflammatory tumors have been cured permanently; in patients in whom inflammatory conditions led to operation, twenty per cent. were cured. Vaginal celiotomy is, after all, a laparotomy by a new route. The dangers are less than by abdominal section. He had seen only two cases in which the scar had yielded, one along its whole length, and the other only partially. From vaginal celiotomy must be excluded all tumors which must not be exposed to the liability to rupture, and he would also exclude all malignant tumors. All plastic operations on a normal sized uterus or adnexa can be done by way of the vagina. Vaginal celiotomy is considered by some as a good means of diagnosis, but he thought that if one knows how to palpate correctly this is not necessary. Vaginal celiotomy is a useful operation which in clearly defined cases furnishes good results, and on account of its relative freedom from danger should be preferred to other methods.

PROFESSOR SANGER of Leipzig said that during the last two or three years in Germany and France the general opinion had changed in favor of the abdominal method.

PROFESSOR FEHLING of Halle recommended puncture through the vagina for diagnostic purposes in difficult cases. He said that in suppurative pelvic peritonitis he made a large incision through the vagina. In chronic diseases of the adnexa, suppurative or non-suppurative, it cannot be determined which is the best method; surgeons are still experimenting. Drainage is important if the peritoneal cavity has been infected by pus, but if this has not occurred he closes it immediately. The abdominal route is attended by greater danger at the time and afterward, but if the operator is not quite sure, he should adopt the abdominal method, because he can see just what he is doing. When the uterus is sacrificed both ovaries should also be removed.

PROFESSOR MARTIN of Berlin said he was pleased to hear Dr. Cullingworth base his remarks on the clinical

features of the cases. If the disease is caused by gonorrhea the surgeon is bound to adopt a quiet and expectant method of treatment. He had been astonished to see a number of cases which were thought to be of gonorrheal infection at last prove to be instances of extra-uterine pregnancy. In some of these cases convalescence takes place; in others the patients suffer from extra-uterine deposits. Disease of the ovaries caused by the bacterium coli is more common than it is believed. Adhesions to the bowels, and invasion of the genital organs by the bacterium coli are frequently found. He recognized fully the indication for operating in poor patients who could not afford to spare the time to get well under good nursing. He would not remove the uterus if he could avoid it; patients who have retained their uterus are more benefited than those who have lost it. He advised that an organ which is amenable to further treatment should not be removed, for, if necessary, it may be removed later. He had not used drainage for many years. He adhered to the vaginal route, but confessed that there are limits to the adaptability of the method.

DR. MACAN of Dublin said that in this country it is the custom to put off operating as long as possible. He thought that operating simply because there is pelvic suppuration and a high temperature is not permissable. It is a personal equation entirely whether one incises the anterior or the posterior cul-de-sac or opens the abdomen.

PROFESSOR BYERS of Belfast said that the greater the surgeon's experience, the more accurate his diagnosis becomes, but there are cases in which the presence of pus, and the exact part involved, can only be settled by opening the abdomen. He thought that British operators had gone too far with the abdominal method. In his opinion when women have pus in the pelvis, and are in an exhausted condition, a vaginal incision will tide them over for a time until the abdomen can be opened. Operating during an attack of acute peritonitis is a very serious thing, and it is better to wait until the severity of the attack has subsided.

DR. HEYWOOD SMITH of London cited a case which illustrated the discussion: An Armenian woman came to him with an obscure fulness in the right side, high temperature, and pain. He decided to operate at once and found the right ovary and tube congested but free from disease, but from the center peeled a mass as large as an orange which contained the left ovary. The wound was closed without drainage and the patient is doing well. He thought that diseased ovaries lose their sensibility to pain, and that the pain in this instance was due to pressure on the healthy ovary. He entered a protest against the word "laparotomy" and thought "celiotomy" a better term.

DR. WARD COUSINS of Southsea advised waiting until absolutely well defined symptoms are present before operating in acute pelvic peritonitis, because many cases subside spontaneously, especially those due to gonorrhea. In the case of patients with irregular temperature and relapsing symptoms an operation is clearly indicated, and if there are changes in the tubes, the abdominal route is the best. He had never been compelled to operate in a case in which the symptoms were clearly due to gonorrhea.

DR. TAYLOR YOUNG of Sydney said that he thought that British surgeons labor under difficulties which German surgeons do not. The former meet with cases in a more advanced state than the latter, and consider conservatism more. He thought that a great mistake is made in England in not more universally adopting the dorsal position in examinations. After having made the diagnosis, the question of what to do is not so doubtful. If it is a simple abscess it should be treated in the same way as in any other part of the body; if it be multilocular and one-sided, incision should be tried first; if it is multilocular and bilateral, a radical operation is the only course to pursue. The adnexa and the uterus should be removed under these circumstances.

DR. A. LAPTHORN SMITH of Montreal thought it safer in acute peritonitis to wait until the attack has subsided. He felt that a definite rule could be laid down as to when to employ the vaginal route and when the abdominal. For large tumors located high in the pelvis, pus tubes, tubo-ovarian abscess, pyosalpinx, and tubal pregnancy the abdominal method is the best, but for small tumors, small ovarian cysts, small fibroids, and retroverted fixation the vaginal route should be chosen. He thought the uterus should be removed in cases in which the tubes and ovaries are removed. He said that the speculum designed by Dr. Doyen is of great advantage when operating in the Trendelenburg position. He has not drained for two or three years, and obtains better results than when he did drain.

DR. AMAND ROUTH of London said that almost all cases of parametritis are puerperal in origin, and are usually accompanied by indurations, rigors, and high temperature, and if the presence of pus is suspected, the peritoneal cavity should be opened. He aspirates, and if pus is found a couple of inches up the broad ligament he lays the sac open freely and drains thoroughly.

DR. MCCANN of London read a paper on

CLAMP AND LIGATURE IN VAGINAL HYSTERECTOMY FOR MALIGNANT DISEASE OF THE UTERUS.

He said that he had written his paper because there seemed to be two schools, one advocating the use of the clamp and another the ligature. He described the technic of his method of operating, and said that he leaves the clamp in position forty-eight hours. The great advantage of using the clamp is the larger amount of broad ligament which can be removed. He does not find convalescence delayed, or that sloughing occurs, and thinks that gauze plugs, left too long in the vagina, might account for some of the sloughing.

SECOND DAY—JULY 28TH.

The proceedings of the second day's session were opened by a discussion on

THE USE AND ABUSE OF THE MIDWIFERY FORCEPS,

which was opened by DR. MILNE MURRAY of Edinburgh. He stated that the selection of the subject for discussion arose out of the President's address delivered by Dr. Sin-

clair at Montreal last year, and quoted from the address as follows: "Midwifery has during the same period become also largely surgical—too surgical—and a thesis which I shall endeavor to maintain to-day is that gynecology has become so largely surgical as the direct result of surgical interference in midwifery practice. The accouchers are providers of material for the gynecologists. The term 'surgical' is employed here with almost exclusive reference to the midwifery forceps." Dr. Murray then asked, "What is the special value of the forceps as a surgical instrument?" It enables the physician to shorten suffering and to diminish the risk of childbirth; to diminish the danger to the mother and to greatly increase the safety of the child. The direct indication for the use of the forceps arises whenever the obstetrician is sure that the danger of interference has become less than that of leaving the patient alone, and in every case this is a matter of individual judgment, and there are many things to be taken into account, such as the state of the parturient canal, the efficiency of the pains, and the condition of the child. In every case the question arises: Is it safer to act or to wait? The obstetrician is not justified in interfering until he is sure waiting would be dangerous, nor is he justified in failing to act when it has been decided that there is danger in delaying.

Dr. Murray had come to the following conclusions: (*a*) The forceps is often used at the wrong time; (*b*) it is sometimes not used at the right time; (*c*) it is often badly used at both times. He summarized the dangers of the forceps, apart from the risk of septic infection, as follows: (1) The mother's parts may be bruised, lacerated, or otherwise injured by mechanical violence; (2) the too sudden emptying of the uterus may be followed by imperfect retraction, and there is danger in consequence of hemorrhage; (3) the fetal head may be unduly compressed, lacerated, or otherwise damaged.

The most striking illustration of the use of the forceps at the wrong time is their application through an undilated os, and particular attention was called to the spasmodically rigid os, which, during the interval between pains, is soft, flabby, and easily stretched, but which, during a pain, becomes tense, hard, and greatly narrowed. The speaker had seen cases in which the attendant, thinking the os fully dilated, had ruptured the membranes, and found after the uterine pains had begun again that the os was less than two-thirds dilated. The use of the forceps in a case like this is one of the gravest and too common examples of their abuse. On account of the tension and thinness, very slight efforts at traction will tear the cervix into the vaginal roof, inflicting dangerous injuries.

In speaking of the second point—not using the forceps at the right time—he thought it a mistake to wait four hours during the second stage, as has been the custom in the Rotunda Hospital, Dublin, but if, after the dilatation of the os, the advance of the head is blocked, either by the size of the head, the resistance of the canal, or the feebleness of the pains, he would not wait a moment before using the instrument. Nothing is to be gained and much is to be lost in waiting after progress is at an end, and the danger of interference is then less than the danger of waiting. The time element alone is not a proper basis for interference. In occipitoposterior positions of the vertex, when flexion is deficient, the sooner the forceps is used the better.

Lastly, the forceps is badly used when it is indicated and when it is not indicated. The first fault in technic is in not using the most efficient instrument. The advantages of the axis-traction forceps over the old forceps are very marked. In the axis-traction forceps one has not only a means of accomplishing delivery with safety and success, but he is able to avoid laceration of the pelvic floor in cases in which it would unavoidably occur if the further process of the labor were left to Nature.

The second fault in technic is in the application of the blades; they should be applied to the biparietal diameter of the head wherever it is situated. The speaker said that he was sure that extensive damage to the lower part of the vaginal canal had been done by oblique positions of the head and forceps at the outlet. Traction should not be jerky, but should begin imperceptibly, and should increase in intensity by even gradations, like a uterine pain.

Dr. Murray adopts the following method: The forceps, after being applied to the head, is held between the thumb and finger of the right hand, while the left hand is passed over the fundus of the uterus, enabling him to control the retraction, detect the beginning of a pain, and aid the action of the forceps by efficient pressure, acting as far as possible only with a pain, and taking care that the traction is effected in such a way as to maintain the advance of the suboccipitobregmatic diameter. In this lies the secret of success, for by means of this forceps one can restore and maintain the relation of the diameter to the outlet. There is one exception to the rule of extracting with a pain, *viz.*, in elderly primiparæ when, the head being low, every uterine pain is accompanied by a spasmodic action of the muscles of the vaginal floor which for the time narrows the vulvar orifice and throws the perineum into a state of tense rigidity. In these cases anesthesia should be deepened and traction avoided except during the intervals of the pains.

PROFESSOR PLAYFAIR of London spoke of the address of Dr. Sinclair at Montreal last year, and denied that obstetricians furnish material for the gynecologist. Even if these lesions are due to the abuse of the forceps it is no argument against its use. Every improvement in medicine is open to the same criticism; because the best treatments are humbugged is no reason why they should be left to the quacks. He spoke of the delivery and death of the Princess Charlotte, when the fetal head was on the brim of the pelvis on Monday, and she was allowed to drag along until 10 o'clock Wednesday night because the obstetricians in attendance would not put on the forceps. He said that Dr. Sinclair had never alluded to one of the greatest glories of modern times, that of the total abolition of craniotomy, due to the more frequent use of the forceps.

DR. SMYLIE of Dublin said that the axis-traction forceps is always used in Dublin. The most important points in the use of the forceps is to bear in mind the indications favorable for its use. The premature use of

forceps before the head has passed the brim may end in the obstetrician not being able to deliver the child, or in serious damage to the mother or child. The reason that patients are left for four hours in the second stage in the Rotunda Hospital is because the work is mostly done by students, and stringent rules had to be laid down for them.

Professor Fehling of Halle said that in Germany the teaching had to be very strict on account of the dreams of the students that every woman should be delivered by forceps. He thought very highly of the axis-traction forceps, but thought it more dangerous in the hands of the beginner than in those of a skilled operator. Three conditions are necessary before the forceps is allowed to be used: three-fourths of the head must have passed the brim of the pelvis, the os uteri must be dilated, and there must be good rotation of the head. Out of 3000 cases in the out-patient clinics forceps has only been employed 294 times, and not a single mother has been lost from the confinement itself, and only six children.

Sir William Priestly said that good should come from warning the younger practitioners to be careful how they use the forceps, the kind to use, and when to use it. More children are saved and less damage done than when he began to teach, nearly fifty years ago. In former days much damage was done by delay. He had seen damage done, not only to the roof of the vagina but also to the cervix uteri from the premature use of forceps.

Professor Stephenson of Aberdeen said it was a country practitioner who first demonstrated the value of forceps. He does not follow the rule of using forceps when the symptoms indicate danger to the mother or child, but tries to prevent these symptoms. His motto is, "Help Nature, and render the parturient force more efficient, or supplement it when deficient." In referring to the question of rotation and flexion, he said that to produce rotation is to produce flexion. A delicate touch and a full knowledge of the mechanism of labor are the essential factors.

Professor Sinclair said that there was a misunderstanding as to his address of last year, and that he had said nothing to suggest that he favored going back to the old practice of midwifery. He said that in Lancashire there are more cases of vesicovaginal fistula now than in the old times. He had seen more cases of damage from the premature use of forceps in the last ten years than he saw during the first ten years of the old practice. It is not the accoucheur who sees the injury done by his forceps, but the gynecologist, especially in the out-patient department of the hospitals, and the opinion that he has formed after twenty years of this experience is the result of clear conviction. He did not intend to teach the whole world midwifery, but he thought it time to take stock of our position and to consider whether we are not abusing these instruments. He thought the teaching of midwifery in the English schools as bad as it could well be. Until men are able to diagnose with exactness, and have some knowledge and judgment behind the delicate touch which has been spoken of, they will not do much good; many put on the forceps, pull the head out, and diagnose the position afterward.

Dr. Jardine of Glasgow said that ten per cent. of the cases in the Glasgow Maternity Hospital last year were of contracted pelves, and delivery by forceps was safer for both mother and child. With a true conjugate of three inches he had delivered a living child weighing 8½ pounds. The axis-traction forceps is the only instrument to use. As to applying the forceps with reference to the diameters of the head, it is theoretically correct but practically impossible.

Dr. More Madden of Dublin then read a paper on

Some Improvements in the Mechanism and Use of the Midwifery Forceps, and in its Employment.

He said that the timely judicious use of the forceps is the greatest triumph of our art. The majority of cases in which it is used are those in which there is delay in the second stage; delay in the first stage is not of so much importance. The two most common causes of this delay are uterine inertia and some mechanical obstruction arising from some disproportion between the fetal head and the maternal passages; in both of these the forceps is valuable. There should be a due proportion between the force employed and the resistance to be overcome. He showed an instrument of his own devising which had great compressing power, and was only intended for those cases in which embryotomy would otherwise be employed. He also showed a pair of forceps, very simple in construction, which were designed to come in contact only with the fetal head, and a pair of tractors which could be fitted to any forceps. He did not think the vagina should be washed out before using forceps, but should be immediately after. He had never resorted to craniotomy or Cæsarean section, although he had been connected with a maternity hospital for thirty years.

Dr. Mary Scharlieb of London read a paper, entitled

A Case of Missed Labor Verified by Operation and also Post-Mortem.

The case was one in which a fully developed fetus was retained beyond the limits of normal pregnancy, died in utero, and was retained until delivered by artificial means.

Dr. Robert Jardine of Glasgow read a paper on

Aseptic Midwifery.

He said that while puerperal fever has disappeared from the maternity hospitals, in private practice it has slightly increased during the last forty years. He spoke of the great importance of adopting strict septic precautions. Lysol, he thought, is the best all-round antiseptic, because it does away with greasy lubricants, which are more or less septic. Special attention should be paid to the external genitals, and examinations should be conducted with the buttocks and vulva in plain view in order that the hands may be kept from touching anything after being sterilized.

(To be continued.)

REVIEWS.

DIE PATHOLOGIE UND THERAPIE DER STERILITAT BEIM MANNE. Von DR. E. FINGER, a. o. Professor an der Universitat, Wien. Leipzig: Arthur Georgi, 1898.

THIS is the first half of a work on sterility, the second portion of which is to be written by Professor Saenger. The well-known studies of Professor Finger in the diseases of the male genital organs have furnished a substantial basis for the present volume.

After discussing the physiology of erection, he enters upon a consideration of the cases of impotence which rest upon anatomic changes. This is followed by a chapter on the causes of impotence which depend upon a functional basis. The symptomatology, pathology, and treatment are next described, the author laying especial stress on the psychic treatment of these cases. He insists, however, upon a sharp distinction between organic and functional disorders of the sexual organs, and would have, in appropriate cases, appropriate treatment directed toward those conditions which are responsible for organic disturbances of the male organs.

The second portion of this work deals with the consideration of those cases in which intercourse is possible, but in which insemination or impregnation are impossible. The author divides these cases into two classes: those in which the sterility arises through pathologic changes, and those in which it is caused by a disturbance in the inseminating apparatus.

The appendix containing the literature of the subject adds value to the work. To those interested in this branch of medicine, as well as those who have to do with cases of this nature in practice, the work can be most heartily recommended as a scientific exposition of the subject.

TRANSACTIONS OF THE NINETEENTH ANNUAL MEETING OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION, held in the city of Washington, D. C., May 4, 5, and 6, 1897. New York: D. Appleton & Company, 1898.

THE interesting papers collected in this volume, as well as the notes of the discussions following their reading at the meeting are ample proof, were any needed, that with the marvelous growth of specialism in medicine, laryngology has more than held its own. The topics treated are, almost without exception, taken from the domain of clinical diagnosis or operative surgery. Experimental pathology is represented in but one treatise, one of the best in the volume, by Drs. Park and Wright, on "Nasal Bacteria in Health." The Association has cause to flatter itself on the high character of its work.

THE BULLETIN OF THE OHIO HOSPITAL FOR EPILEPTICS. January, 1898. Published by the Hospital.

THE Bulletin contains several valuable pathologic articles by Dr. A. P. Ohlmacher, director of the pathologic laboratory. It opens with a detailed report of the clinical and pathological features of six cases which came to autopsy. The anatomical findings are given in detail, and four of the six cases gave evidence of the lymphoid constitution upon which so much stress is at present being laid by pathologists. It furnishes, as well, the topic for Dr. Ohlmacher's second article in which he looks upon these findings as a possible pathological basis for some forms of epilepsy. Several beautiful photographic plates enhance the value of the bulletin.

THERAPEUTIC HINTS.

Gastric Hyperacidity.—

℞ Sodii sulphatis	. . . .	℥ i
Potasii sulphatis	. . .	gr. lxxx
Sodii chloridi	. . . .	℥ i
Sodii carbonatis	. . .	ʒ vi
Sodii boratis	. . . .	ʒ iiss.

M. Sig. Half a teaspoonful in half a glass of warm water before breakfast and two hours before the two other meals.—*Wolff.*

Boaz has found the action of the above very efficacious in diminishing the secretion of hydrochloric acid during digestion as well as when the stomach is empty of food. He recommends also the following powder:

℞ Magnesiæ	. . .	℥ ss
Bismuthi carbonatis, Sodii carbonatis	aa .	gr. lxxx
Ext. belladonnæ, Ext. nucis vomicæ	aa .	gr. iss–gr. iii.

M. Sig. Half a teaspoonful three times a day half an hour after eating.

Mixture for Intra-Urethral Injection in Gonorrhea.—Pousson reports favorable results from the use of the following, the formula being based on the principle that a mixture of several antiseptics exhibits more energetic therapeutic action than any single one of the same even in strong solution:

℞ Menthol	. . . . .	gr. ½
Acidi salicylici	. . . .	gr. iss
Acidi carbolici, Acidi lactici, Ol. eucalypti, Methyl salicylatis	aa . .	gr. iii
Resorcin	. . . . .	gr. viii
Aq. dest.	. . . . .	℥ iii.

M. Sig. External use.

For Tapeworm.—

℞ Strontii lactici	. . . .	ʒ v
Glycerini	. . . . .	℥ i
Aq. dest.	. . . . .	ʒ iii.

M. Sig. A tablespoonful morning and evening for five successive days.—*Laborde.*

For the Sweats of Phthisis.—The patient should be rubbed with the following mixture frequently:

℞ Tinct. carminativæ	. . .	*m.* vii
Spts. etheris nitrosi	. . .	*m.* viii
Tinct. krameriæ	. . . .	*m.* xxx
Spts. vini gallici	. . . .	℥ iii
Aq. dest.	. . . . q. s. ad.	℥ vi.

M. Sig. External use.

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXXIII. NEW YORK, SATURDAY, AUGUST 20, 1898. NO. 8.

ORIGINAL ARTICLES.

THE EDUCATION OF THE SENSE OF SMELL.

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MY attention was first called to this subject during a lecture on the special senses. Alluding to the power of distinguishing individuals by the sense of smell, and asking how many of the class possessed this power, I was surprised to find that not one out of fifty or sixty replied in the affirmative, nor has my experience with subsequent classes been different. The rarity with which human beings make any effort to cultivate this faculty, and the difficulty of securing data, will be an excuse for drawing largely on personal experiences. In order that such experiences may appear fairly as individual observations, not as general traits, this article will necessarily assume, in places, an appearance of egoism.

As pointed out in conversation by Professor Woods Hutchinson, the present method of training children is such as to repress the intellectual use of the sense of smell. To smell of food subjects the child to dismissal from the table; to ask, "What smells?" is considered vulgar; to say, "Who smells?" is treated as an indecency. In fact, in our endeavor to be "nice," we even confuse the verb *smell* with the always intransitive verbs, *reek* and *stink*, as is well illustrated by an anecdote of the lexicographer Johnson. A lady, in remonstrating with him for his well-known carelessness in matters of the toilet, said, "Positively, doctor, you smell." "You are wrong, madame," replied the doctor, "you smell, but I stink." In view of the prejudices alluded to, I must ask my readers to follow the subject in a scientific spirit and especially to guard against the tendency to associate animal odors with the ideas of uncleanliness or indecency.

Man has been so much in the habit of regarding himself as the culmination of the animal kingdom that it is well for him to receive some humiliation in studying comparative anatomy and physiology. While he certainly has the largest and best developed central nervous system, his digestive apparatus is far inferior to that of the herbivora, and his special sense organs are surpassed in one or more particulars by almost every one of the higher mammals. The bulb of the olfactory nerve is almost a cerebral lobe in some animals. We are in the habit of classifying sight and hearing as intellectual senses and applying some contrasting term to the other seven (touch, pressure, muscular, temperature, equilibrium, taste, smell). The most superficial study of language, which is a convenient gage of mental development, shows that the vocabulary connected with the sense of smell is more limited than that for any other sense, and that for smell alone we are entirely lacking in general descriptive terms, though tastes, also, must be spoken of by comparison with known perceptions. With dogs, and some other animals, such a low ranking of the sense of smell is very far from being the case. Just as we feel only half acquainted with an object which we have touched but have not seen, so a dog is evidently not fully satisfied with sensations arising from the eye and the ear; he must supplement them with those of smell before he has fully framed his concept. Not only does he recognize human beings by the sense of smell, but all the social amenities of dog life, all his hunting instincts, all his conscientious guardianship of domestic animals, and much of his mischievous sport, are connected with smell. Probably few persons have failed to notice that urination with dogs is more than a physiologic act. In cities, especially, smelling and urination occupy a great deal of the dog's attention and there is certainly as much intelligence called into play as in the hide-and-seek games of children. Indeed, after setting aside the first sentiment of disgust, one can recognize a very elaborate etiquette in the use by the dog of his olfactory sense. Not to pursue this branch of the subject further, let us study the sense of smell in the human being with the admission that we have persistently neglected this sense for generations until we have become, in this regard, idiots by deprivation. Let us also endeavor to educate the remains of this sense as we would the imperfect power of hearing, sight, or touch in a defective patient.

The odor of the healthy, clean human being arises from the perspiration and the sebaceous secretion. Neither of these contains as an important chemic ingredient a volatile substance, and whether the volatile excreta from the skin are more properly considered as perspiratory or sebaceous in origin, I shall not pretend to say. There are minor differences in the physiologic chemistry of different individuals which are manifested by varied appetites, varied

power of growth, varied power of assimilation, conspicuously of fats but quite as genuinely of other foods, and, not to mention other idiosyncrasies, by peculiarities of the effluvia of the skin. Some human beings who have the power of distinguishing individuals by odor have described the odor as usually agreeable and, often, in the case of persons of the opposite sex, as an excitant of passion. This is certainly true of dogs. Personally, the odor of a human being is neither agreeable nor disagreeable to me, and is entirely free from sexual or other sentimental suggestion. It is simply a discrimination, unqualified by any associated idea. Of course, this statement refers to clean persons—those whom most others would consider practically odorless—and I may say that the cultivation of the sense of smell has not—as use or study is said to do in general—diminished in the least the esthetic ideas usually connected with odors. In fact, I am almost painfully affected by many food-odors, such as onion, cabbage, turnip, etc., and by certain perfumes, such as musk, the scent of hyacinths, easter-lilies, tube-roses, etc. None of these aversions of smell, however, are insuperable or sufficient to interfere with the gratification of hunger or the discharge of any duty.

The unclean human body affords odors which may be of diagnostic importance, or, at least, may aid in that detective work which every physician has to perform in estimating social standing, habits, and other circumstances in connection with the practical care of the sick. The following odors may be detected, singly or combined: (1) Neglected skin secretion, sebaceous or perspiratory. (2) The special odor of the axillæ. (3) The special odor of the smegma. (4) The special odor of the perineum. 1, 2, 3, and 4 refer to general or modified secretions from sebaceous glands, with the accidental admixture of truly sudoriferous odors. (5) Urine. (6) Feces. (7) The special odor of the scalp, which, perhaps, should be included with the first four. (8) Breath. (9) Menstrual blood or other secretion. (10) The odor of the feet, which is not a sebaceous odor but due to the decomposition of macerated epithelium. (11) Extrinsic odors permeating clothing, hair, etc. (12) Certain vegetable or drug-odors which escape through many routes, but especially through the skin. (13) Perfumes, as in soaps and other cosmetics.

The terms clean and unclean are relative and by no means dependent on refinement, social position, etc. It is absolutely impossible for any one to keep immaculately—or rather inodorously—clean and have time for anything else. Owing to personal differences in chemistry, some may remain free from noticeable odor while careless as to bathing, and, on the other hand, the greatest pains in bathing and changing underwear may not be sufficient to offset a tendency to bromhydrosis. I once attended an old woman who had chronic Bright's disease in the mild, interstitial form. The recommendation of hot bathing to stimulate the skin elicited the fact that the patient had not had a bath for about forty years, yet she was not marked by a disagreeable odor. Persons illustrating the opposite extreme deserve our sympathy and forbearance, rather than the ridicule which is so freely bestowed. Women require more frequent attention to the toilet than do men, even when not menstruating, and when such factors as constipation and lack of exercise do not exist. While perspiration causes a noticeable odor, persons engaged in active exercise who sweat much and bathe sufficiently are much less odorous than those who take little exercise and, hence, retain products of imperfect metabolism in the system. Very fat persons and those with acne, comedones, and wens, are liable to the development of valerianic acid and more or less closely allied bodies. It is largely this substance that gives the peculiar sour odor to accumulations in the umbilicus, beneath the breasts, or other folds of the skin. It is sometimes possible to squeeze from a small wen a thread of sebaceous material may feet or even yards long, having a marked odor of valerianic acid. While fat women are very apt to be disagreeably odorous, the axillary odor is usually marked in lean brunettes. Just why the axillary odor should be so much more marked in women than in men is difficult to explain, unless on account of the warmth of the corset and the wearing of tighter garments. Many women are nuisances simply because they neglect to use sleeve-protectors or to keep clean those that they do use. Often the absence of a bath-tub or the necessity of dressing in a cold room is a crucial factor.

The odor of smegma, urine, feces, and feet usually indicates a rank infringement of the laws of decency. The first may indicate a stimulation of sexual passion and may, therefore, be of value in recognizing cases of hysteria. Quite recently this was the case in regard to a patient whom I was summoned in haste to see some time after having treated her for subacid dyspepsia. The young man in the case was admonished as to his future conduct. It is questionable whether the sexual excitement was merely the cause of the hysteric seizure, or of the dyspepsia, also. In the *Journal of the American Medical Association* of February 19, 1898, Dr. Charles Provost Grayson calls attention to the sexual factor in the production of nasal hyperemia and inflammation, and alludes to the existence of other reflex manifestations of the same emotional cause. Physicians must realize the

importance of this subject and consider it without false modesty. The smell of urine may indicate stillicidium in women, prostatic disease in men, enuresis in children, and various other causes of impairment of the sphincter and urethral muscles. It is easy to distinguish the odor of decomposed normal urine from the reek of that which has undergone alkaline putrefaction in the bladder, along with the decomposition of mucin (or nucleo-albumin?). As is well-known, the urine may be odorous from the ingestion of asparagus, turpentine, and various other foods and drugs. A fecal odor may indicate the presence of a fistula or some interference with the tone of the sphincters. By the odor we may distinguish between fat decomposition, with the production of fatty acids, the putrefaction of proteids, including blood, and the sourness of carbohydrate fermentation. After the evacuation of fecal contents by a diarrhea, a characteristic saline (?) and not especially disagreeable odor may indicate the loss of serum or of mucus. Sometimes, even the odor of orange, lemon, etc., may be distinguished, as well as that of certain drugs. In one case about which I was consulted, the appearance of the little sacs in which the pulp of orange is contained had occasioned considerable alarm and, while the low power of the microscope was the crucial test, the mere odor of the fecal fluid was significant. Foods like beans and eggs, which are rich in sulphur, usually produce H_2S and CS_2. The latter gas seems to be more slowly volatile than most other odorous intestinal gases; at any rate it is more persistent and gives the idea of staleness in regard to a discharge either of feces or of flatus.

The odors of the feet and of the scalp have no special diagnostic value in my experience, although they should have to a dermatologist. In justice to patients, it must be remembered that blacking, paste, and badly tanned leather may be responsible for an offensive odor; also, that excessive sweating of the feet is a disease, not a filthy habit. The odor of the breath may be due to nasal, pharyngeal, or even frontal or other sinus disease, to ulceration of the gums, cheeks, etc.; to decomposition in and about the teeth; to decomposition in tonsillar crypts; to laryngeal, pulmonary, or gastric disease. The fetid odor of ozena is classic, but in mild affections there may be retention and decomposition of mucus, epithelium, and débris. From hospital experience I can say that phthisical patients are apt to develop a peculiar sour odor of the breath, especially after cavities have formed. The odor of mercurial stomatitis has been described as characteristic, but, personally, I have not been able to distinguish it from that of noma or of any other extensive ulceration or necrosis of comparable extent and degree. Foul breath may be due to the lodgment of food between sound teeth, and cleaning of the teeth should not be considered thorough unless the brush is preceded by the use of floss or, better yet, of loosely twisted shoe-thread.

The back of the tongue is a fertile breeding place for bacteria and molds, and is often in league with similar but perhaps less marked processes in decayed teeth, tonsillar crypts, etc. The wonderful "sympathy" between gastric conditions and those of the tongue, which aroused so much attention ten years ago and more, is similarly explained. Sour eructations do not usually produce more than a temporary odor of the breath, but, in any marked stomach trouble in which bacterial action is unrestrained, the same process is apt to take place in the trough of the tongue. Hepatic and intestinal lesions produce bad breath, apparently from the absorption of toxic substances, not odorous in themselves but capable of reducing the resisting power of the mouth to bacterial action. Gangrene of the lungs has a quite characteristic odor. In diabetes, not only the breath but all secretions may be perfumed with what was formerly supposed to be acetone. The worst breath is due to the filthy practice of stuffing dental cavities with cotton. A woman addicted to this practice is mentioned by her acquaintances as "The pestilence that walketh by noonday." Alcoholic beverages are well known to impart a characteristic odor to the breath, and thus to give a warning to the diagnostician. But we must not confuse the odor of bay rum used as a cosmetic nor forget that the man with whisky on his breath may have an apoplexy or that he may have taken a single drink, innocently, because of the commencement of symptoms that have subsequently overcome him. The odor of chronic alcoholism is quite different from that of recent imbibing.

The odor of menstruation is occasionally diagnostic but it is mentioned here rather for the sake of emphasizing that it may be utterly unpreventable, persisting in spite of the most careful toilet possible. Whether curettement would be indicated for this symptom, is a question for the gynecologist. The odor of the clothing often throws light on the habits, occupation, and social status of a patient. Some teacher has written eloquently of the "Smell of dirty little boys on a wet day." Men who work about horses have a characteristic, and, to many persons, not disagreeable odor. Occupation about other animals is often detectable by the odor. The combined bovine and lactic-acid odor of the milkman is conspicuous. Good and bad leather and many other commodities are odorous. I must confess that I

cannot always distinguish a lady from a "loidy" by the dress and must often rely on the odor of perfume. The quality of tobacco, its use for smoking or chewing, the amount used, are quite distinguishable by the smell, and are of considerable indirect value. The clothing of even the cleanly poor, who have not the privilege of bath-tubs and who must hang their garments where they are penetrated by the fumes of cooking, often assumes a vile odor. New garments, recently moistened and pressed, are often quite offensive. Persons who eat garlic, onions, etc., must expect to have strong-smelling secretions, which no amount of external cleanliness will offset.

Juvenal, centuries ago, addressed an epigram to a perfumed fop as follows: "You smell well, therefore, I think you smell ill." The character of perfume is a very fair index of social status. Musk we naturally associate with bleached hair and a stained character. Musk plus iodoform, in the absence of a visible lesion, is a not uncommon combination and suggests not only bad morals but venereal infection. Bergamot and other abominations of the barber-shop often stamp that class of men for whom we have no more reputable term than "mucker."

In very few instances is there a characteristic odor directly diagnostic of disease. The mousy smell of favus and the odor of variola are classic. Some physicians speak of a characteristic odor of typhoid. This is a mistake; the odor is due partly to sour milk from the diet and partly to the intestinal intoxication and may be encountered in any low fever. The so-called acetone odor of diabetes has already been alluded to. Some idea of the amount of waste carried off by the kidneys may be obtained by the pungent odor given off when the urine is boiled. Such volatile excreta are certainly highly toxic but their exact nature is not understood. Urine loaded with indican and other products of intestinal putrefaction is apt to develop a foul odor quite distinct from that of normal but condensed urine. The interval between the ingestion of asparagus and the appearance of the odor of methyl mercaptan in the urine may be used as a rough test of absorption. Normally, the odor should be marked in four hours and should continue for about eight hours longer.

In examining the gastric contents we make practical use of the nose to distinguish acetic and butyric acids, and we may also distinguish the mixed sourness of carbohydrate fermentation—which must not be confused with that of fruit ingested—the putrefaction of albumin in serious ischochymia, and the carrion-like smell of cancer. Personally, I would place as much stress on the last as on any other single sign of carcinoma except tumor. The presence of H_2S in the stomach contents or eructated gas is almost positive evidence of regurgitation of the bacillus coli communis from the large, and the lower part of the small, intestine, unless foods rich in sulphur have been eaten.

A short time ago I was called in consultation to see an infant who had had an obstinate diarrhea for some days, not relieved by treatment. Physical examination revealed practically nothing, but, during it a quantity of foul intestinal gas was discharged on which I felt warranted in basing the diagnosis of proteid decomposition which usually follows marked failure of the secretion of hydrochloric acid. Treatment accordingly, with hydrochloric acid and eudoxin, a bismuth salt containing iodin, relieved the the trouble in thirty-six hours. In a few cases of gall-stones and of hepatic sclerosis I have detected peculiar odors not encountered elsewhere, and which I believe to have some diagnostic value. Of course, they are quite indescribable.

Problems of toxicology are often solved by the sense of smell. The general anesthetics, hydrocyanic acid, alcohol, carbolic acid, some opiates, cannabis indica, camphor, and illuminating-gas may be mentioned. There is now awaiting execution a man convicted of murder mainly on the testimony of a physician who gave a death-certificate as due to natural causes, whose suspicions were later aroused and who then made a positive diagnosis of hydrocyanic-acid poisoning, from the odor of the brain several days after death and after embalming was claimed to have been done. As the brain has normally a peculiar odor, which may described perhaps as spicy, and as the physician did not have frequent opportunity to make autopsies, one may be pardoned for questioning whether the odor of hydrocyanic acid was really present. The presence or absence of formol in embalming fluids is often important in diagnosing between the peculiar hard state of bowel thus embalmed while in rigor mortis and pathologic conditions.

In sanitary practice one of the best tests for leaks in sewer or other pipes is that by volatile and odorous substances, such as peppermint. Or, we may substitute the oil of catnip and use the more acute olfactories of a cat. Similarly, I have used the peppermint test in diagnosing against intestinal occlusion.

This paper is intended to call attention to the possibilities of using the nose as a practical aid to the physician, not as a complete treatise on the subject. Many interesting observations on this topic may be found in Gould and Pyles' "Anomalies and Curiosities of Medicine." Criticisms and reports of the observations of others will be most gladly received.

AMPUTATION AT THE SHOULDER-JOINT; A SERIES OF EIGHT CASES WITHOUT A DEATH.

By MANNING SIMONS, M.D.,
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Amputation performed by modern methods has given greatly improved results so far as the mortality of these operations is concerned. A review of the statistics is especially interesting as showing the improvement to be noted in relation to amputations performed at the shoulder-joint. Much of the improvement in mortality-results may be attributed to what is now familiarly known as "aseptic surgery." Indeed, the success of amputations for injury depends more upon the first treatment of the wound than upon the skill of the operating surgeon. For the same reason the great mortality formerly attendant upon compound fractures has diminished in proportion as this fact is understood and appreciated by the rank and file of physicians under whose observation and attendance these cases come before they reach the surgeon. Again, the modern bloodless methods with which the names of Esmarch and Wyeth are inseparably connected have done much to reduce the mortality associated with amputations.

A writer, in a system of surgery published not more than ten years ago, says: "Amputation at the shoulder-joint is in appearance a most formidable operation, yet its results are upon the whole successful." The mortality-table presented by this authority gives a death-rate per cent. in this operation varying from 33.3 to 76.9. He compares these figures with those of amputations in different parts of the body, and remarks that it is seen that the death-rate of shoulder-joint amputations, which is less than two in five, is not much greater than that of amputation of the leg, and very much less than that of amputation of the thigh.

Since this operation was actually put into practice in the early part of the last century it has been performed in a variety of ways. Sedillot enumerates at least twenty, Velpeau thirty, and Lisfranc thirty-six. This variety of methods indicates that the operation, in the light of modern surgery comparatively simple of execution, taxed the ingenuity of surgeons in its perfection and development. Most modern authorities seem to have eliminated all of these methods except three, each with one or more modifications. The following seem to have maintained their hold upon the favor of surgeons: The oval or racquet method of Larrey; the external flap method by transfixion known by the name of Dupuytren; and the anteroposterior flap method of Lisfranc. Until Wyeth brought to notice and to practical application his bloodless method, the only safeguards against hemorrhage were compression of the subclavian artery upon the first rib, either by a finger, or by means of an object such as a wrapped key. The real mainstay, however, was the skilful assistant who followed the knife of the surgeon as he severed the brachial artery with the final sweep. Even under the most favorable circumstances a large amount of blood was lost in the severed limb. With Esmarch's bandage, and with Wyeth's method properly carried out in faithful detail, the loss of blood beyond oozing from divided capillaries in the extensive wound surface and from small muscular branches after removal of the rubber tubing is trifling in amount.

In applying this method experience derived from these cases induces me to call especial attention to one precaution. "It is essential that both pins emerge one inch internal to the top of the acromion; otherwise, when the humerus is disarticulated, the tubing tends to slip down, thus drawing the flaps together when the vessels may retreat, severe hemorrhage then occurring, necessitating ligature of the subclavian artery or removal of the tube to secure the vessels in the wound, the latter only being possible of execution after severe loss of blood." The chief vessels, *viz.*, the brachial, subscapular, and posterior circumflex, should be secured before the tubing is removed, and usually they are easily seen and taken up.

The case reported first in this paper was an object lesson to me in ligatures, exemplified by the occurrence of secondary hemorrhage from the brachial artery on the fifth day. Doubtless the most fruitful cause of this form of hemorrhage is septic inflammation which prevents the process of healing in the vessels or destroys that which may have occurred. In this case too early softening of the non-chromicized catgut ligature was the cause of the hemorrhage. The wound, which had healed along the line of incision, was with some difficulty opened up and the bleeding vessel found freed from the ligatures by absorption and softening of the latter. According to my usual custom, chromicized catgut is used to ligate vessels in amputation, but on this occasion there was none at hand and non-chromicized gut was used, with the result mentioned.

In one of these cases the amputation was done by Larrey's or the oval method, the others by intero-external flaps by dissection from without inward. The operation is not difficult of performance, but the chief trouble experienced is in the division of the muscles surrounding the joint, subscapular, supra- and infraspinatus and long head of the biceps. In Larrey's operation these muscles are reached through a vertical incision and such space as may

be obtained by the separation of the tissues on each side from the bone. At best the cutting of the insertions of the muscles must be done by touch rather than by sight. Dupuytren's operation by transfixion, after raising of the flap, gives a good view of the muscular attachments to be severed, but it has the disadvantage that there is difficulty in carrying the knife sufficiently far around the prominence of the head of the humerus to get a wide-based, well-rounded external flap, which necessarily contains all of the deltoid. The method by dissection from without inward, I believe, obviates these difficulties and objections and greatly simplifies the operation.

This operation seems to have attracted but little attention and is either not mentioned at all or is simply alluded to in recent text-books and systems of surgery. In the "International Encyclopedia of Surgery" it is dismissed as follows in the description of Dupuytren's operation by transfixion: "A modification, and I think an improvement of this method originally practised by Cline, and first described in this country by Dr. J. A. Smith of New York in a letter to Dorsey, consists in cutting a deltoid flap of curved outline from without inward, then disarticulating and finally completing the operation in the way already described." In the "System of Surgery" by Dennis, under the head of the modified oval operation, is described a method in which an external flap is made by cutting from without inward, but it lacks in simplicity as compared with the operation performed in several of the cases here reported.

The operation I have found simple and of rapid execution is described by Druitt as a method that "may be employed." In operating by dissection the surgeon may stand facing the patient and take hold of the arm, leaving the external flap to be raised by an assistant, or he may stand outside either limb and take hold of the flap himself. The latter plan, I think, is the more convenient, and in all my operations by this method I have managed the flap myself and entrusted the arm to an assistant. The arm being carried inward and forward by an assistant, the surgeon commences his incision just outside of the coracoid process, carries it down to the insertion of the deltoid, and then making a well-rounded turn ascends to a point above the angle of the posterior axillary fold just below the spine of the scapula near its root. The skin is everted below and the flap, consisting at first only of skin and subcutaneous tissue, is dissected up, but taking more and more of the deltoid until at its base it includes the whole thickness of that muscle. When this flap is raised the capsule of the joint is fully exposed and the muscles to be divided are easily in reach, and plainly to be seen. The arm being now strongly adducted, the capsule is opened by a strong cut upon the head of the bone, the knife is passed between the scapula and humerus and down along the inner side of the latter for a sufficient distance, then directly inward. If the pins and tubing have been properly placed, the assistant need not compress the artery as formerly advised.

The wound is swabbed with chlorid of zinc. A drainage-tube having been introduced the wound is closed with silkworm gut, the line of apposition of the flaps extending from above downward and outward. The wound dressings are, first, sterilized gauze next to the wound, then iodoform gauze, then bichlorid gauze, cotton, and a snug bandage. The drainage-tube is removed in forty-eight hours. In my series of cases healing occurred without suppuration, except in one instance in which the operation was performed for a sloughing sarcoma of large size in the neighborhood of the elbow-joint. According to the notes of this case, the suppuration occurred at one point and ceased at the end of four days.

CASE I.—T. N., a Syrian, was admitted to the City Hospital, December 18, 1895, suffering from a burn which had charred his arm nearly to the shoulder-joint. Amputation performed at shoulder-joint. Secondary hemorrhage on 5th day. Discharged cured January 11, 1896.

CASE II.—S. G., black, male, aged twenty-nine years, was admitted to the City Hospital, December 28, 1896, suffering from a gunshot wound of the right arm. The weapon used was a double-barreled shotgun loaded with No. 4 shot. Next day the arm was taken off at the shoulder-joint. The outer flap was perforated by twelve of the shot. The patient made an uneventful recovery. Discharged February 5, 1897.

CASE III.—John S., black, male, aged fourteen years, was admitted to the City Hospital, December 30, 1896, suffering from a crushed arm, caused by a railroad accident. The arm was amputated the same day. Patient made an uneventful recovery and was discharged February 1, 1897.

CASE IV.—Joe W., black, male, aged sixteen years, was admitted to the City Hospital, October 3, 1896, suffering from a compound fracture of the humerus. Amputation at shoulder-joint. The patient made an uneventful recovery and was discharged October 22, 1896.

CASE V.—Jacob B., black, male, aged fifty years, was admitted to the City Hospital, January 18, 1897, suffering from a malignant tumor of the right arm just below the elbow. It was gangrenous. Amputated January 19, 1897, at the shoulder-joint. Wound suppurated for four days. Patient made a good recovery and was discharged cured March 1, 1897.

CASE VI.—Ishmael G., black, male, aged four-

teen years, was admitted to the City Hospital, March 16, 1897, suffering from a gunshot wound of the right arm. The weapon was an old musket, loaded with No. 5 shot. The arm was nearly cut from the body. It was amputated the same day at the shoulder-joint. Patient made an uneventful recovery and was discharged April 7, 1897.

Case VII.—William J., black, male, aged twenty years, was admitted to the City Hospital suffering from a compound fracture of the right arm. Amputation was performed at the shoulder-joint. Patient made an uneventful recovery.

Case VIII.—Jennings H., colored, male, aged twenty-eight years, a large, well-muscled phosphate hand, entered St. Francis Xavier's Infirmary, January 20, 1897, at 9 P.M. During the afternoon, while riding on a car, he slipped and fell in such a manner that the wheel of a loaded freight car passed over the arm below the shoulder-joint. The arm was almost completely severed and the bone crushed so as to render maniputation impossible except with the aid of the lion forceps. Hemorrhage had been profuse but was checked by some of the bystanders who tied a piece of twine tightly around the arm. Amputation was performed at the shoulder-joint about 10 P.M. of the same day. Subsequent to the operation his temperature never rose after the second day, and on the third day the tube was taken out. The wound healed by first intention. Every second stitch was taken out on the ninth day and the remaining ones on the fourteenth day. He was discharged cured on the twenty-first day.

CHRONIC ARTICULAR RHEUMATISM AND LUMBAGO TREATED BY COLD OVER THE SPINE.

By BEVERLEY OLIVER KINNEAR, M.D.,
of New York.

In chronic articular rheumatism the regulation of the circulation of the blood throughout the body by means of cold applied over the spinal nerve-centers will, without the aid of internal medication, restore the patient to health or ameliorate his condition.

The reason that cold over the spine will accomplish this result is because when properly and intelligently applied it will always dilate the arterioles and capillaries throughout the whole organism and increase the external heat of the body very perceptibly. This signifies more rapid metabolic changes, increased general nutrition, and restoration to normal function in the tissues. That cold over the spine restores diseased tissues to health is practically proved by the results of the applications; the patients steadily gain in strength, in appetite, and in digestion, and soon begin to manifest an increased energy of mind and body. The ice-bags which are to be used should never be wider than four and a half inches for the adult, otherwise the body will be chilled. The length of the bag depends on the age and size of the patient.

The fact now generally recognized that metabolic changes or processes are largely under the control of the nervous system, throws a new light upon rheumatism, as it does also upon all inflammatory disorders. That the cerebrospinal nerves when excited, after severance by electricity applied to the terminal section of the nerve, will give rise to heat and swelling in muscular and connective tissue was proven by Brown-Séquard when he stimulated the cut end of the chorda tympani nerve, and noted that not only did the submaxillary gland discharge very freely, but that the tongue became hot, red, and swollen, indicating thereby that stimulus of the cerebrospinal nerve caused active hyperemia with effusion in this muscle and its connective tissue and mucous membrane. It is also quite widely believed to-day that every motor nerve carries with it a trophic or vasodilator fiber, and if this be true of the nerve-supply of all the tissues in the body, it is very easy to realize that excitement of cerebrospinal central cells, will, if sufficiently strong, give rise to inflammations in the distal areas controlled by the centers.

This view is enforced from the clinical standpoint by the application of cold over the spine in many forms of chronic inflammation. By the intelligent use of such applications it is possible rapidly to subdue inflammatory forms of skin disease, chronic forms of inflammation in the mucous membranes, such as chronic bronchitis or chronic diarrhea, and also "irritable ulcer" as well as old and sluggish ulcerations. I speak from personal experience, and after some eight thousand applications of cold over the spine personally made, with observation of the results. In all these forms of inflammation, as well as in chronic articular rheumatism, the spinal ice-bag is exceedingly grateful to the feelings of the patient, giving him a delightful sense of refreshment and rest. After a few weeks, or even a few days, he perceives a renewal of strength, particularly if he was originally strong and vigorous, which is surprising to him. In patients of naturally feeble constitution the results are longer in appearing.

The question which next arises is, what agent, force, or substance will so increase the function of the central nerve-cells as to give rise to inflammation at their peripheral terminals? The only reasonable reply is, that within the body the blood carries to all organs and tissues their proper nourishment, and that when in secreting organs, such as glands, there is an excess of blood, something beyond the normal supply, there will be excessive secretion from them; in other words, their functional action is increased. Muscular exercise, causing an increased flow of blood to the muscular system, will so add to its functional power that it soon can double its usual work. This

is well illustrated in the training of athletes, and I consider it a very reasonable hypothesis that excess of blood circulating in certain central cells of the cerebrospinal nervous system may so over-develop their functional power as to give rise to inflammations in the locations innervated and controlled by the hyperemic nerve-centers. It is entirely upon this hypothesis, that I have now for years successfully dispersed congestions, checked hemorrhages, and subdued inflammations, both acute and chronic.

Let us consider the morbid anatomy of acute articular rheumatism. "The synovial membrane is usually injected; the capillaries are dilated, and the reddening is best marked where the membrane joins the cartilage. The cells of the synovial fringes multiply; the epithelial cells are enlarged and often surrounded by fat. The lymphatics of the synovial adventitia are enlarged, the cartilage cells proliferate and the fundamental substance segments." (Loomis.) Here is practically an inflammation, with the usual heat, pain, and swelling. In chronic articular rheumatism the same changes occur, only with subacute symptoms.

All of these changes in the chronic form of rheumatism can at once be checked by applying cold over the spinal region, and not only checked, but a reverse process substituted, and absorption of the inflammatory products induced. I completely cured one of the worst cases of chronic articular rheumatism that I have ever seen by the application of the spinal ice bag alone, without the aid of drugs, after almost every other known remedy had been tried. Nearly every joint in the patient's body was affected, and had been so for eighteen months previous to my treatment. The pain was constant, night and day, and he had become much emaciated. He was able to crawl at a snail's pace by the aid of two canes, and after he had seated himself, it required at least a minute and a half for him to regain the erect position. His appetite had begun to fail, and he was rapidly going down hill. A twenty-two-inch spinal ice-bag was applied from the fourth cervical to the third lumbar vertebra, for one hour twice a day, with immediate relief to the pain while the bag remained on. In ten days pain had ceased in all his joints, and he could rise from the sitting position at once, easily and comfortably. His progress toward recovery was steady and rapid, and he regained in a few months about forty pounds in weight. In six-months' time the cure was complete, and from that day to the present (some twelve years) he has had no relapse to my knowledge.

The cold over the spine induces these great and vital changes by expelling from the hyperemic trophic vasodilator nerve-centers that supply the joints the excess of blood, which, by increasing the function of the centers, caused the inflammation in the joints. This excess being expelled, the inflammatory process at the nerve terminals must cease.

Further, by the power of the spinal ice-bag to dilate the whole arterial system, the general circulation and consequently the general nutrition is improved, the abnormal supply of blood within the joints is withdrawn from them and distributed to every tissue and organ in the body, filling with new life and vigor anemic muscles, and stimulating healthy secretion and excretion from the viscera. This augmentation of all metabolic processes creates a call for more oxygen, and in all cachectic conditions the respiration is invariably deepened by the use of the spinal ice-bag. I could cite cases of a number of patients treated successfully, but I desire rather to set before the profession the view of rheumatism as an inflammatory affection due to a hyperemia of a certain class of nerve-centers, in order that others may test the action of the ice-bag in the chronic form of articular rheumatism.

I do not advise the use of the spinal ice-bag in acute articular rheumatism, on account of the great shock to the system in the sudden checking of such widespread disorder, but after the disease has run its course, the condition of the patient may be improved much more rapidly and the strength more speedily regained by the use of cold over the spinal nerve-centers, than is possible without such treatment.

In lumbago, that very painful form of muscular rheumatism, the dorsolumbar spinal ice-bag (ten inches long, four and a quarter inches wide) will readily break an acute attack, with almost immediate comfort to the patient. At the same time a fairly strong cholagogue should be administered, for in the majority of acute attacks of this complaint digestion is disordered and the liver is very inactive. In chronic lumbago the ice-bag will effect a cure in many cases, and in others it will check the severity of the disease, and give much ease to the patient.

In chronic articular rheumatism the spinal ice-bag may be used from one-half an hour to three hours per day in divided applications, according to the strength and general condition of the patient. If the appetite be good, and the patient fairly strong, then the ice-bag, at first wrapped in one thickness of flannel, may be used morning, noon, and night for an hour, but the physician must exercise judgment, and make the treatment either strong or light according to the strength and natural vital power of the patient. He must also keep the bowels moving steadily and naturally, for when new vigor is suddenly imparted to the whole organism, the secretions from the digestive organs are largely increased, much

more food is consumed, and if care is not taken to evacuate the whole intestinal tract regularly and completely during the first few weeks of treatment, there is apt to be a good deal of trouble with the liver and the digestive secretions.

In an acute attack of lumbago it is my custom to evacuate the whole intestinal tract by a cholagogue pill and a large enema, and to apply the dorsolumbar ice-bag against the skin, and continuously, from the seventh or eighth dorsal to the third lumbar vertebra, until the patient is able to rise and move about with some degree of ease. I then re-apply the bag every four hours, for one hour at a time, until entire relief has been established. A mild tonic with some preparation of iron will then be sufficient to restore the patient to his usual health.

THE USE OF ANTITOXIN.

BY GEO. H. CATTERMOLE, M.D.,
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CONTAGIOUS DISEASE INSPECTOR FOR THE MICHIGAN BOARD OF HEALTH.

THE following observations were made in the wards and clinics of the Berlin Charity Hospital during the winter of 1897–98, and are of interest because of the thorough test given antitoxin as a prophylactic and curative agent.

With a very few exceptions each child on entering the Charité was given a 500-unit inoculation of Behring's serum as a prophylactic against diphtheria. This precaution was taken regardless of what disease the child was suffering from on its entrance to the hospital, and without doubt was a wise measure in such an institution, judging from the fact that a number of cases of diphtheria occurred in the general wards of the hospital, usually about three or four weeks after the entrance of the patients. The prophylactic dose of antitoxin probably only gave immunity for three or four weeks, but as this is much longer than the average period of incubation in diphtheria it is reasonable to suppose that those patients developing the disease after remaining in the hospital for so long a time, must have become infected after entering the wards. As further evidence that the hospital was infected with diphtheria, three patients to whom the serum was not administered on entrance contracted the disease in from two to seven days after being admitted.

Children remaining in the hospital less than three weeks may have been protected from diphtheria by the immunizing dose of antitoxin, although many patients remained in the wards longer than three weeks without contracting this disease. A few patients who were admitted with other diseases, and who received the immunizing antitoxin, developed diphtheria after being in the hospital only a few (three to five) days, but in these cases there is the probability that they contracted diphtheria before coming into the hospital or immediately on entrance to the wards. Without exception these latter cases were of a very mild form, and in this respect show a close analogy to those cases of smallpox in which vaccination has been practised between the time of the exposure of the patient and the onset of the disease. We have good reason to believe that if antitoxins are introduced simultaneously with the toxins, or the toxin-producers, they will neutralize or modify the deleterious effects of the latter. Some interesting results along this line have recently been obtained by Wassermann of Berlin, who injected normal brain substance simultaneously with tetanus bacilli. The animals treated thus remained free from toxic symptoms while the control animals succumbed to the disease. Wassermann explains this by the fact of the toxin combining with the injected brain substance and not affecting the nervous tissues of the animal. In a similar way antitoxin probably neutralizes the poison elaborated by the Klebs-Loeffler bacillus if given before the toxin from the bacillus has had time to poison the nerve-cells and other tissues. In evidence of this statement the following history of a case, in which the antitoxin was probably given too late, may be of interest:

A boy, aged thirteen years, suffering from a severe attack of diphtheria, was admitted to the hospital on the fourth day of sickness. Membrane covered the free edge of the soft palate and both tonsils. He was given Behring's serum on entrance to the ward. His temperature rose for two days (or until the sixth day of illness), after which it began to decline and at the end of the second week was normal. On the twenty-third and twenty-fourth days his temperature rose again, probably due to the development of otitis media. From this time symptoms of paralysis began to appear, involving the soft palate, legs, muscles of the back and muscles of accommodation, while those of the arms were less affected. In this case the serum, given on the fourth day of sickness, was probably too late to prevent the action of the poison upon the nerve-cells, and the subsequent paralysis. He recovered after a prolonged convalescence.

The earlier antitoxin is given after the disease is contracted, the more effectual will its action be. Here is where the private practitioner should act promptly. When administered on the first day of the disease probably all patients recover; on the second and third days the results are not so good, and later than the third day antitoxin may have no beneficial action, as the system is already poisoned. It may even do harm when given too late in the disease.

When children have been exposed, a prophylactic

dose of the serum should be given at once. I am inclined to favor the use of the stronger (concentrated) serums, both for prophylaxis and curative actions, as their use seems to be more certain and followed by fewer cases of serum erythema. This erythema appears one or two days after the administration of the serum and resembles that of scarlatina, but in color is a trifle darker, and is not accompanied by such high temperature. With this erythema there is likely to be greater swelling of the cervical glands. Heubner thinks the erythema is a serious complication and that it may be due to impurities in the serum. Certain it is that patients having this complication are more likely to develop the septic form of the disease. The best explanation of this seems to be that the longer the true diphtheria germ or poison acts on the tissues the more likely there is to be mixed infection. The Klebs-Loeffler bacillus develops more rapidly than the streptococcus, and so prepares a culture-ground for the latter germ. The early use of *good* serum retards the formation of membrane and lessens the chance of mixed infection, but if erythema follows the use of the antitoxin it prolongs the illness and seems to favor the growth of the streptococcus. The following history is a good example of this:

A seven-year-old girl was taken sick, October 23d, with true diphtheria, as shown by the growth of the Klebs-Loeffler bacillus on blood-serum. She was given antitoxin by a physician in private practice (strength not learned). A few days later erythema appeared, due to the use of the antitoxin. At this time she was admitted to the hospital. The cervical glands were enlarged and the case resembled scarlatina, but lacked the high temperature and subsequent appearance of that disease. At the end of the second week the temperature rose to 40° C. (104° F.), and fluctuation was noticed in the glands on the right side of the neck. These glands were lanced, and streptococci were found in the abscess. A few days later Klebs-Loeffler bacilli were found in a membrane which formed on the wound. In the fifth week dulness appeared over the right lung. This was tapped and the fluid found to contain streptococci. They were not pneumococci. Ten weeks after the first sickness an abscess formed over the left shoulder-blade.

This was considered a case of septic infection. The first attack was pure diphtheria, but its cure was delayed by the erythema, and this delay gave the streptococcus time to develop, with subsequent spread of the septic disease.

Serum erythema is the most serious complication that I have observed resulting from the use of antitoxin, but it is not of sufficient importance to make one hesitate for a moment in the use of antitoxin. All reports of its use are favorable. The general use of antitoxin as a prophylactic during an epidemic, and its careful but thorough use in all cases of the disease, would, I believe, reduce the deaths from diphtheria to *nil*.

WAR ARTICLES.

CARING FOR THE SICK AND WOUNDED AT CAMP WIKOFF, MONTAUK POINT, LONG ISLAND.

BY J. H. BURTENSHAW, M.D.,
OF NEW YORK.

ACCORDING to some authorities, no more ideal spot could have been chosen as a site for a military camp than Montauk Point, at the extreme eastern end of Long Island, for the ground is rolling, pasturage for the horses and mules is abundant, and 100,000 men might easily find tent room on the four-mile stretch between sea and sound without crowding. On the other hand, it is claimed that the site is too far removed from the several bases of supply, the ground is not sufficiently level, there are too many marshy places in the hollows, and, above all, there is a lack of wholesome water both for drinking and cooking purposes. The last objection, at least, promises speedily to be overcome, and it is safe to assume that when the 20,000 troops shall have arrived from the various mobilization camps in the South and from the vicinity of Santiago, they will quickly recuperate and forget the hardships of the past.

The regulations which have been adopted in connection with the landing of the troops show admirable forethought, and every precaution will be taken to prevent infection. Quarantine measures on the transports are under the charge of Passed Assistant-Surgeon G. B. Magruder of the Marine Hospital Service, assisted by Passed Assistant-Surgeon J. J. Kinyoun, Assistant-Surgeons Hastings, Tabb, and White, and Acting Assistant-Surgeon Brunner. Under these officers is a staff of three hospital stewards and ten hospital attendants. All transports will be boarded immediately upon arrival in the bay by Dr. Magruder, who will determine whether the soldiers on board should be kept in strict quarantine or simply disinfected. The yellow flag will be hoisted at the time of his visit, and no communication whatever allowed with the shore until the inspection has been completed and the final disposition of the troops determined upon.

There are two piers jutting out into Fort Pond Bay, one above and the other below the railway station, there being a sufficient depth of water at the end of each to allow of the transports making a landing. The men on ships having a clean bill of health will be landed at the lower pier, and after

their clothing has been disinfected and each man has taken a bath, will be allowed to move into the general camp. All troops coming from Cuba will be provided with complete, new outfits of clothing in order to lessen the danger of contagion. Ships reporting illness on board will be required to land at the upper pier, where is moored the disinfecting barge "Protector," recently brought from Philadelphia. This vessel in many respects is a counterpart of the one in use at the Port of New York, having a large chamber for disinfection by means of formaldehyd, another in which sulphur is used, a steam chest, bichlorid tank, four shower baths, six bath tubs, water-closets, laboratories for the examination of fluids, excreta, and the like, and a crematory. Here all the men from these ships will be required to take a bath, they will be supplied with new or disinfected clothing, and then will be removed to the detention camp, where they will remain for a period of from five to seven days under observation before being permitted to go to the general camp. Dr. Magruder and his assistants will be able to provide for the bathing and disinfecting of 100 men per hour, and it is calculated that at least 18,000 of the troops will undergo this process on board the "Protector." All those suspected to be suffering from contagious disease, especially yellow fever, will be sent to the isolation camp, there to remain until the disease from which they are suffering has been diagnosed, or until all danger of contagion is past, when they will be removed to the general hospital. It is probable that all the men suffering from typhoid fever will at once be taken to some one of the hospitals in New York City, in accordance with a suggestion recently made by Dr. A. H. Doty, Health Officer of the Port of New York. A special camp for the treatment of yellow-fever patients has been established, but in the opinion of Assistant Surgeon-General Forwood and Surgeons Magruder and Brunner, it will not be necessary to make use of it, as there is little probability of the disease being brought to this part of the country, even by those coming from the infected district in the vicinity of Santiago.

The detention camp is located about one and one-half miles from the piers and from the railway station, and the same distance from the general hospital. It nestles in a broad valley out of sight from the main thoroughfare leading to the general camp, and is reached by a new road which has just been cut. At present there are about 150 tents in position, but this number will be increased indefinitely as occasion demands. This camp, as well as the isolation and yellow-fever camps, will be subject to the strictest quarantine, and no visitors will be allowed to approach them. Sentries have already been posted on all sides, and at the point where the new road branches off, so there will be little difficulty in maintaining the regulations. The isolation camp is situated three-quarters of a mile from the detention camp, and a mile and one-half or more from the general hospital, also in a secluded spot, and the tents designed for the use of yellow-fever patients are about half a mile further on, at the most distant end of the encampment. Ten ambulances are at present on the ground, and twice this number are expected to arrive within a few days. Ambulances used in transporting men suspected of suffering from contagious disease will be carefully disinfected before again being used.

The general hospital is located on a broad plateau overlooking the ocean on the south and the rolling hills of Montauk on the north, and at present is one and one-half miles from the nearest cavalry or infantry encampment, although as the troops arrive they probably will be assigned to locations somewhat nearer. Too much praise cannot be given to Colonel Forwood and Dr. Ira C. Brown for having overcome difficulties which would have staggered men of less force and ability, for in less than one week they planned and erected the largest and most complete hospital of its kind ever seen in this country. Dr. Brown, who was surgeon of the 6th Cavalry Regiment before being detailed to duty at the general hospital, recently brought thirty-five sick troopers from Tampa to Montauk in a freight-car devoid of comforts or conveniences, most of the men being ill with typhoid fever, and landed his patients at the camp in better condition than when they started. Such a feat is one to be proud of, but the conscientious surgeon decreased in weight by fifty pounds in doing it.

The arrangement of the entire hospital is admirable in every respect, and it will indeed be a very sick patient who is not quickly restored to health and vigor under the influence of these surroundings. At the extreme right, or western end, on slightly elevated ground, are fifteen 12x12 tents occupied by the hospital officers, and a short distance to one side are their mess and kitchen-tents. Fifty feet removed from and in front of the officers' quarters, adjoining the hospital wards, are four rows of three tents each, erected on wooden platforms measuring 14 feet 6 inches by 42 feet, there being two tents to each platform, and each pair separated by a "fly" of the same size as a regulation tent. The first two on the right are devoted to the general offices, the second two to drugs and hospital supplies, and the third two to anesthetizing and operating purposes. On the left are, first, the commissary and quartermaster's supply

tents, then those containing medical stores, and, finally, the executive office and dispensary.

An open space, measuring 24 feet 6 inches, separates the executive office and operating-tent from the hospital wards. Extending for a distance of 245 feet from this line is a wooden platform, 14 feet 6 inches wide, and raised two feet from the ground, and at right angles to this, at intervals of fifteen feet, are sixteen platforms, eight on each side, 14 feet 6 inches wide and 112 feet long, upon which, on wooden framework, the wall tents for the patients have been erected. The long platform is covered over its entire length with canvas, and it thus affords a pleasant lounging-place and promenade for those invalids who are able to be up, and their visitors. The hospital tents on each platform are arranged in pairs and each pair is separated from the next by a "fly" with open sides, thus affording ample ventilation. Each tent is of the regulation size—14x14.6—and the intervening space between each two pair measures the same. There are six tents and two "flies" on each platform, or ninety-six tents in all, and each accommodates five patients, or a total of 480, without crowding. On one side of each tent three beds are placed side by side, and, on the other side two, end to end, thus allowing ample room for a passageway. If occasion requires these wards will accommodate an additional hundred patients, and still give each one plenty of room. The iron beds are of an improved pattern, and may be folded up. Each is supplied with wire springs, two pairs of blankets, a feather pillow, and sheets and pillow case. Portable commodes are in each ward.

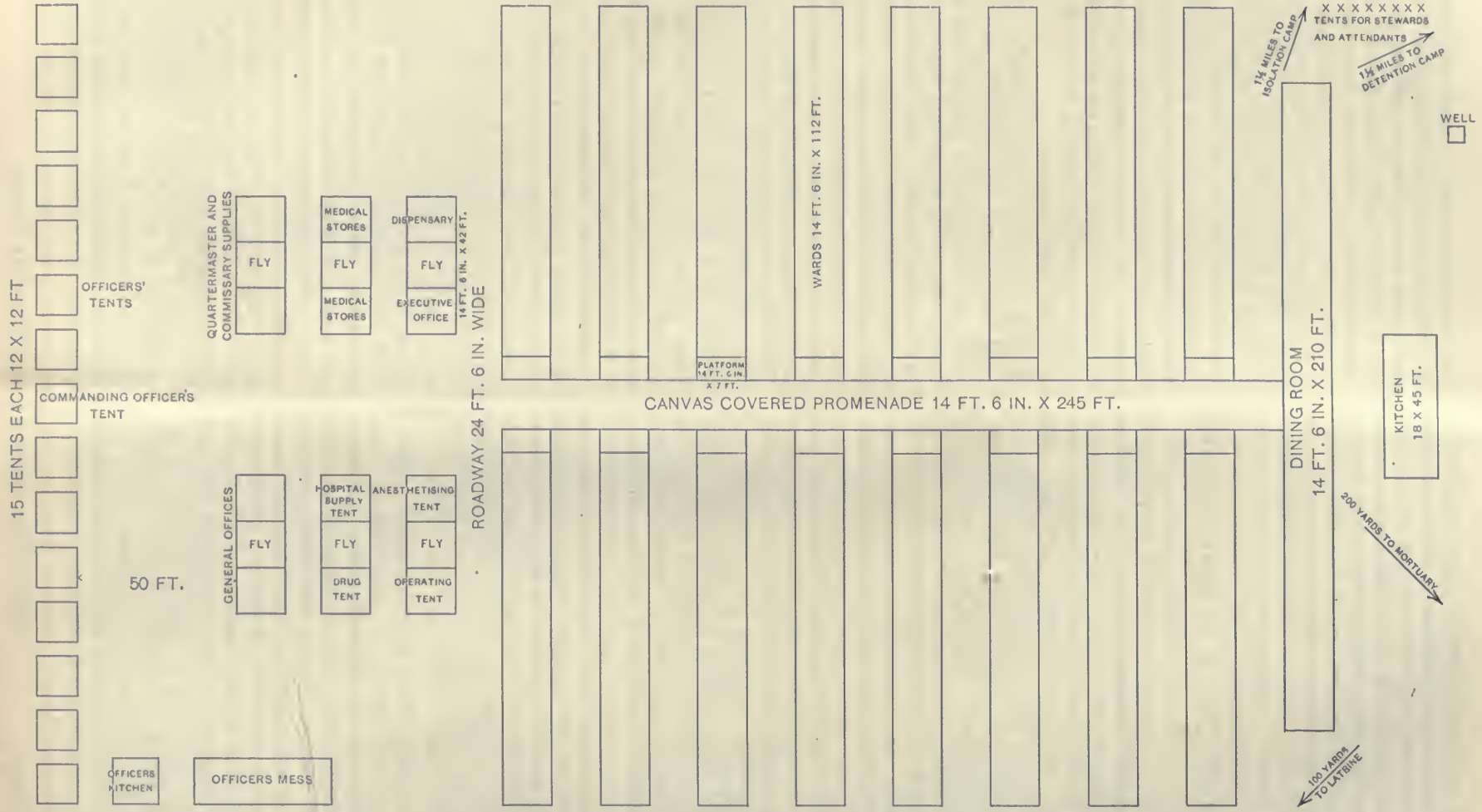
Each ward and bed in the hospital is numbered and an indexed list of all patients is kept by Dr. Brown. A morning and evening report is made to him by the assistant surgeons of the condition of every patient in the wards, and these reports are filed away for future reference should this be necessary. An ambulance bearing a sick or wounded soldier is driven to the executive office at the end of the row and, if practicable, the patient's history is taken by one of the assistants, and he is then carried to one of the wards on a stretcher. At the time of my visit (August 12th) there were ninety patients in the hospital, fifteen having been discharged and ten admitted that day. About seventy per cent. of these were suffering from chronic diarrhea and dysentery, contracted at the camps in the South. There were seven cases of typhoid fever, all in the last stages, and the patients were rapidly convalescing. Not a single case of contagious or infectious disease up to that time had developed among the 3500 troops then in camp.

It is not likely that a patrol will be established around the quarters of the general hospital, as this step is considered unnecessary, but care will be taken that the patients are not fatigued by too much attention on the part of visitors, and the hours at which the latter will be permitted to enter the hospital will be limited. The Red-Cross Society and the Women's National War Relief Association have established headquarters there and clothing and delicacies of all kinds are abundant. When I asked Colonel Forwood if anything else was needed his reply was characteristic. "If we were to accept all offers of assistance," he said, "we would have to put up a storehouse as big as the hospital itself. We want the New York daily papers, the magazines, and the pictorial weeklies—all these and more, but we *don't* want any more jam and pajamas. The commissary tents, medical supply-tents, and even the tents of the officers are bulging with jam and pajamas, and still they come by every train." It is to be hoped that the many war relief societies throughout the country will take the hint.

Miss Helen Gould has supplied the patients with an unlimited quantity of mineral and other waters, and has given Dr. Brown authority to order anything else that may be needed at her expense. The question of diet for the sick was of such importance that it received attention at the very beginning, and it was proposed to erect a special diet-kitchen for the purpose of preparing the food, but the matter has been simplified by Colonel Forwood, who has set aside a large cooking-range in the general kitchen for the exclusive use of two experienced cooks, who are to be installed by the Womens' Relief Association, and the same organization will also furnish all necessary supplies for this purpose.

At the eastern end of the hospital is a platform upon which is the general dining-room, access to which is gained from the long covered promenade before mentioned. This room is 14 feet 6 inches in width and 210 feet long, and is divided into sections of three tents and a "fly" throughout its length. Here the convalescents and hospital attendants will take their meals. Twenty-four feet to the rear of this structure is the hospital kitchen, 18x45 feet, which has a brick floor and, at present, two modern cooking-ranges, with room for three additional ones if their use becomes necessary. The mortuary is temporarily located about two hundred yards from the dining-room, but its position is soon to be changed.

The sink, or latrine, at the hospital is crude in construction and entirely inadequate to the needs of the inmates. The plans and specifications of the latrine devised by Dr. John McG. Woodbury, the present chief sanitary inspector of the army in Porto Rico, which were recently forwarded by the MEDICAL



GROUND-PLAN OF THE GENERAL HOSPITAL AT CAMP WIKOFF, MONTAUK POINT, LONG ISLAND.
Erected under the personal supervision of Colonel W. H. Forwood, Assistant Surgeon-General, United States Army.

NEWS to Dr. Brown, undoubtedly will result in the remedying of this defect immediately. The contract has just been let for a steam-laundry plant, 30 by 60 feet in size, which is to be erected for the use of the hospital at an expense of $2500. It will be located nearly one mile from the hospital site, and will be of sufficient capacity to wash the bed and body linen of 600 men per day. Fresh water for its purposes will be obtained from Fort Pond, and drainage will be into the ocean.

At the present time the working staff of the general hospital, in addition to Colonel Forwood and Dr. Brown, is made up of three very efficient acting assistant surgeons—Drs. F. G. Jones, C. E. Moore, and Moons—thirty-one orderlies, one steward, one assistant steward, one cook, and one assistant cook. One hundred additional orderlies have been asked for, and the kitchen force will also be increased. Dr. Brown has proved himself such a capable and painstaking officer that the wisdom shown in his selection for this important post is very apparent.

The purity of the water-supply of a camp is all important, and grave doubts have been expressed by experts as to the possibility of procuring palatable and uncontaminated water at Camp Wikoff. Two small lakes—Fort Pond, near the railway station, on the ocean side of the camp, and Great Pond, near the Sound—have been depended upon to supply water for both drinking and cooking purposes, but the former contains 158 grains of salt to the gallon, and the latter 210, so that the water is decidedly brackish. Aside from this fact, the camp of the 9th Cavalry has been pitched at the border of the first named, and that of the 6th Cavalry by the second, and as the horses and mules belonging to these troops, as well as a majority of the 2000 other animals at the camp, are led down to the ponds twice daily for water, the supply will very soon become unfit for use. A pumping-station has been established at the edge of Fort Pond, from which a pipe-line conducts the water to different points, but the in-take of the station is located but a few feet from the shore, which adds to the danger. Orders have been given that all the water taken from the ponds must be boiled before being used, but it is hardly to be expected that this will be done. All water used at the general hospital and detention camps is brought in tank-wagons from the railway company's well at the station, and is supposed to be pure and wholesome.

Wells are being sunk in different parts of the camp, and the contractors expect to obtain an output of at least 200,000 gallons of pure water daily for the use of the troops. If their expectations are realized this will allow of but ten gallons a day to each man, and the horses and mules, 10,000 of which are expected at the camp, are not provided for in the estimate In New York City the water-supply is equal to eighty-three gallons per capita daily, and it will be seen at once that unless other provision is made the supply at Montauk Point will prove entirely inadequate. Experts have expressed the opinion that it is impossible to obtain water on Long Island in any quantity that is free from surface impregnation or seepage from the salt water or marshes, and have instanced the many years of fruitless experience in endeavoring to increase the supply for the City of Brooklyn. It will be remembered that Baisley's Pond, one of the largest sources of Brooklyn's supply, and also Spring Creek, both in Jamaica, had to be shut off three years ago because of the absolute unfitness of their water for city use. It has been said that the geological formation of the island is such that all water below the surface is contaminated by surface drainage, and in proof of this the many analyses that have been made are referred to.

Colonel Forwood is inclined to disagree with these conclusions. He claims that at Montauk Point there is, first, a moderately deep layer of rich, black earth, then a stratum of tenacious clay, ranging from six to eight feet in thickness, and, finally, from twenty to fifty feet of coarse sand and gravel, and that a well sunk to a depth of from twenty-four to forty feet, bricked and cemented to keep out surface drainage, will supply perfectly pure water. If good water is found in the wells that are being sunk in the vicinity of the pumping-station the in-take pipes will be transferred at once to the new source of supply, and the pond water will no longer be used. The situation of the well that is being sunk near the general hospital has not been well chosen. It is removed but a few yards from the kitchen, is on a lower level, and is close to a small bog. It is probable, however, that even if passably good water is found at this place it will be used only for cooking purposes, and that the drinking-supply will continue to be brought from distant points.

FOOD AND RAIMENT IN THE PHILIPPINES.

BY JOSEPH EARLE STEVENS
OF BOSTON.

THE dinner one used to get for 35 cents at the Manila Club did not begin to seem as strange after United States fare as did one's first home meal taste heavenly after a couple of years in the Philippines. For on the outward journey to the Far East the traveler gets used to finding the food growing poorer and scarcely notices the drop in quality between that served on the steamers running over from Hong Kong and that which he finds at

the English Club. Although a dose of the bill of fare at the Hotel Oriente in Manila, with its early breakfast of thick chocolate, with its lunch of fish, eggs, cheese, and bananas, and its dinner of soup, "puchero," chicken, and boiled goat rarely failed to instil a Spanish flavor into the breath of the freshly arrived traveler, yet the club table was good enough not to be noticeably worse than that in Yokohama and Hong Kong. Peculiarly enough, however, when one retraced his steps and started homeward the change seemed prodigious, and a first meal in the Hong Kong hotel, or on the "Coptic," or at the Grand in Yokohama, tasted so supremely far above Manila fare that one was consoled for having eaten a long series of Philippine meals by the overwhelming pleasure of once more getting fresh celery, good beef, new peas, and pie.

Cattle don't thrive in the Philippines. Sheep are not found there. Potatoes don't grow in the Archipelago. Vegetables are everywhere scarce, so it seems, and the peas and asparagus one gets come mostly from France or Germany. In peaceful times, gone by—to be sure—the industrious Chinaman in his little garden raised delicacies for the tables of foreigners, but now that most of these almond-eyed celestials have retired with their dollars to China, tomatoes, lettuce, beans, and corn, are probably scarcer. Chicken and eggs are two great Philippine standbys, and always seem to form a groundwork to every meal. Beef from poor wornout bullocks, shipped up from Australia, likewise has its usual bright place to fill, but mutton and potatoes have to come over from China. Fruits, Manila has in plenty, and what with mangoes, mangosteens, oranges, bananas, pineapples, grape fruits, and melons selling for a song, the market is well supplied.

The meal hours of the foreigner in Manila are somewhat curious. The "desayuno," or light breakfast comes at 7.30; tiffin, or hearty breakfast at noon; afternoon tea —a peculiar institution everywhere observed—at 4, and hearty dinner at 8 P.M. Thus, one goes until noon on not more than an egg or two and a bit of fruit, and eats so much at tiffin in consequence, that, together with the rest of the town, he has to lie off in a long chair for an hour or two in order to acquire energy enough to return to work. But it is thoroughly advisable to follow the local custom in taking the siesta during the middle of the day and, as all Manila seems asleep between 12 M. and 3 P.M., one soon acquires a habit that is hard to get rid of after a return to the more hurried days in the Western World.

Tea comes along conveniently at 4 P.M., and all the big offices have their tea-room. Toast, fruit, and jam, play their part and business gossip is always reserved for just this occasion. With the home dinner at 8, one gets a chance to enjoy, out of doors, the cool season which surrounds the sunset, and is generally ready to go to bed shortly after the last meal of the day has been finished.

All meat in Manila and other parts of the islands is eaten fresh-killed, since ice fails to preserve fish, flesh, or fowl, and game and fowl are always sold at the markets alive. It is not to be denied that the tough, stringy taste to this portion of the menu is far from desirable, but necessity seems to know no law and one must accustom himself almost to seeing the chickens for his fourth course wandering around in the kitchen half plucked as he begins his feast.

Living was very cheap in Manila during my stay, and our cook got but 40 cents with which to provide the dinner for four people. And we would have such dishes as soup, fish, chops, and peas, roast chicken with potatoes, beans, and corn, salad, dessert, and fruit—quite a repast for so small a sum.

The milk available in the Philippines rarely comes from the Jersey cow, but is a product of the "carabao" or water buffalo, and tastes somewhat oily. Oatmeal and cream are things unknown, and the former is now said to be too heating for a hot climate diet. Chocolate seems to come under the same category, and even mangoes—that fruit with the smooth, turpentine taste—have to be eschewed by him who suffers from prickly heat. Bread, too, is not eaten so much as toast, and the foreigner almost always insists on getting his "pan tostada" in order that any lurking microbes, which the bread may have absorbed during the process of manufacture in the little Chinese bakery, may be destroyed.

As the Manila water-supply was good I had no hesitation in drinking plenty of Adam's ale and never found it disagreed with me. In fact, some of the old stagers say a long glass of water just after one gets up in the morning doeth good like a medicine, and suffice it to say, it seemed to work like a charm in my case. Needless to remark the members of the small English colony, which did not number more than three score and ten, all drank whisky, and many of them insisted that unless one took just so much of that article each day he would surely get the fever. Brandy has been given up in the East as a regular beverage, for it seems to have been the cause of much liver trouble and, whereas, thousands of cases of brandy used once to be sent out to India, China, and the Philippines, whisky has now stepped in and taken its place. Strong claret is the popular beverage with the Spanish element, and sweet "licores" with the natives. Most excellent beer is to be had on draft at the "cervezerias" along the Escolta, and the Manila brew has quite a famous reputation.

In conclusion, as to food it must be said that, in peaceful times, Manila fare is not bad, though it lacks variety, and such articles as one gets in the ordinary menu at the club, or in the restaurants seem amply to supply the demands made on the new arrival by the climate. Heavy or heating foods, such as oatmeal, baked beans, plum puddings, chocolate, and the like are best left alone, and in my mind the less alcohol one takes the better. Claret and seltzer make one of the cleanest drinks to be imagined, and one better than a brandy and soda, or something of the same strong make-up.

When I went to Manila I took several suits of light clothes, but failed to use one of them during my two-years' stay. Even the thinnest garments made in the States seem too heavy for the climate of the Philippines, and it is far wiser, in ordinary times, to go to Manila with but clothes enough to serve for the cool weather

of the journey. Plenty of handkerchiefs, light undershirts and socks may well form part of one's wardrobe, but beyond that it would generally be as well to let a Hong Kong or Manila tailor fit one out with the light and airy costumes of the country. These suits are made of thin, white sheeting, and some of them consist of but two pieces—a light button-up military jacket and pair of trousers. Others have the ordinary open-front jacket, and whereas—dressed in the first costume—one need not wear shirt, collar, or tie; in the second he has to be provided with all of these. The button-up—as it is called—is best for hot work in the office or in the sun, and the open jacket is more suitable for the promenade or a dinner at the club. Thin, white dress coats, without tails, are also in vogue, and a Tuxedo coat, with white sheeting trousers, is all right at a dinner party. Drawers are not generally worn, but in their stead comes the flannel cholera belt which protects the stomach from exposure to sudden drafts. A fresh suit is worn daily by the regular resident, and fresh socks and fresh underwear. One needs about eighteen of these white suits to have plenty for daily use and an extra change on Sundays or feast-day occasions, and as the laundryman used only to charge $2.50 a month for washing all that one wished to throw in the hamper, the question of expense was merely the initial one at the tailor's.

Felt hats are in vogue, as a rule, with the European colony, but now and then a Panama is visible. As before said, the great point is to have the headgear thick enough to keep the sun from penetrating the hat material and to see that it somewhat protects the back part of the neck. Pith helmets and sun hats are always advisable for use in the heat of the day or for trips to the provinces, and because the natives go bareheaded is just the reason why the foreigner should not do so. Thus to conclude, as food is cheap in Manila, so is dress, and the white suit should not cost over $2.50. One never feels so cleanly as when after his bath each morning he puts on an entirely fresh set of garments, and at night it is a positive relief to feel that you can thoroughly shake off the day's impressions by thrusting your moist clothes into the hamper presided over by the "lavandero." A native servant is, of course, invaluable to look after one's wardrobe, and if at the start he is made responsible for everything his master entrusts to his care, he generally sees that nothing goes astray.

Scarcely anywhere in the tropics can people dress as cheaply and live as cheaply as in Manila, and if that were the end and aim of life we should see boat-loads of wanderers going to the Philippines. But, in my mind, very few Americans will ever be content to settle permanently in the Archipelago and, like myself, will be glad to feel they are only transients.

Sanitary Inspector at Santiago.—Sanitary Inspector H. S. Caminero, United States Marine Hospital Service, who before the inauguration of hostilities with Spain was on duty at Santiago, and who since that date has been at Kingston, Jamaica, has resumed his duties at that port, and will have full charge of the quarantine service there.

AMBULANCE DRILL WITH SWORD SIGNALS—DISTRIBUTION OF PERSONNEL AND MATERIAL ON MOBILIZATION.

By HENRY I. RAYMOND, M.D.,
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THERE are few exercises more exhilarating in the early morning air than mounted drill with a train of ambulances guided in their movements by sword signals from the officer in charge, with the immediate translation of the signals by the ambulance orderly—a smart, bright young fellow, quick of apprehension and of good lung power—who sits beside the driver on the box with arms folded, eyes clinging to the signal sword, and all alertness in look and actions to cry the signals back to the succeeding ambulance, sixteen feet in the rear, and so on till the rearmost orderly, catching it up, sounds it in the ear of his driver whose eyes are bent upon the roadway ahead and upon his fractious mules, his ears open to the several commands, "right by ambulance, march," "trot," "gallop," "decrease speed one degree," "on right into line, march," "halt," etc.

More than one tail-gate has been battered by the oncoming pole of the ambulance in the rear, in obeying on the trot or gallop down hill a badly timed signal from the instructor to decrease one degree (gallop to trot, trot to walk), and similar occurrences are likely to take place on level ground when the proper intervals—sixteen feet—between ambulances in column are not rigidly observed. And yet the ambulance company must train to go on the double-quick, for much of its utility depends upon celerity of movement and precision of action in getting to the front and handling the wounded with expedition and care. To approximate this degree of perfection demands training—repetition of the action under conditions approximating actual service upon the battle-field as nearly as practicable. To this end, also, ambulance drills are conducted ofttimes on drill-grounds or commons occupied simultaneously by companies or battalions of the regiments of the divisions at the early morning drills or exercises.

The ambulance companies of this corps are now organized in accordance with Circular No. 3, from headquarters, 3rd Army Corps, Chief Surgeon's Office, making the following distribution of personnel:

	Brigade Hdqrs.	Sections. 1st.	2d.	3d.
Six Medical Officers:				
1 Medical officer, commanding	1	..	..	..
1 Medical officer, executive	1	..	..	..
1 Medical officer, subsistence	1	..	..	..
3 Medical officers, attending surgeons	..	1	1	1
1 Quartermaster, Lieut. of the line	1	..	..	..
Ten Non-Commissioned Officers:				
1 Hospital-steward (1st. sergt.)	1	..	..	..
2 Hospital-stewards (Ambulance sergts.)	..	1	1	..
1 Hospital-steward (Dispenser)	1	..	..	..
1 Hospital-steward (Q. M. sergt.)	1	..	..	..
2 Hospital-stewards (Bearer sergts.)	..	..	1	1
1 Acting-steward (Commissary sergt.)	1	..	..	..
1 Acting-steward (Bearer sergt.)	..	1	..	..
1 Acting-steward (Records)	1	..	..	..
1 Trumpeter	1	..	..	..

	Brigade Hdqrs.	Sections. 1st.	2d.	3d.
2 Cooks	1	..	..	1
2 Assistant Cooks	..	1	1	..
25 Ambulance drivers	1	8	8	8
38 Litter-bearers and attendants	1	12	12	13
25 Ambulance orderlies	1	8	8	8
5 Orderlies	2	1	1	1
4 Wagon-drivers	1	1	1	1
1 Blacksmith	1	..	..	..
1 Saddler	1	..	..	..
	19	34	34	34

It is stipulated that at least one section will always be with headquarters. As to material, it is provided that blacksmiths' and saddlers' tools will, as far as practicable, be carried, each set in a specially prepared chest, with headquarters' equipage. Other camp equipage and material is equally distributed among the three wagons (one for each brigade section) so that what pertains to the dressing station, including hospital flags and National flags with halyards and poles, will be carried by the respective brigade section wagon.

In camp the men have been provided with conical wall-tents, accommodating from fifteen to eighteen to the tent, but on the march "the men will occupy shelter-tents in which, when struck, they will roll a rubber blanket and their clothing, and which will be carried in the wagons of their section." Rations, forage, and officers' baggage are distributed as follows:

	Brigade Hdqrs.	Sections. 1st.	2d.	3rd.
5 Days' rations (114 men)—lbs	428	428	428	428
5 Days' short forage (81 animals)—lbs	911	911	911	911
Officers' baggage—lbs	450	150	150	150

Medical supplies, hospital stores, antiseptics, medicines, etc., are carried in the ambulances and so distributed that ambulances 1 and 5 of each eight ambulances pertaining to a given section will carry medicines and medical supplies, while 2, 3, 4, 6, and 7, will carry hospital stores.

Circular No. 3, above referred to, itemizes all material supplies both in the medical and transportation departments of the ambulance company, and closes with the following paragraphs:

"All the material herein laid down will be provided, and so much of it as is not needed for current use will be kept separate and packed in such a manner that the ambulance company, or any part of it, can be mobilized at the shortest notice.

"The company will be frequently practised in pitching and breaking camp, organizing dressing and ambulance-stations, and in such other work as it will be called upon to do on the march and battle-field. The officers, non-commissioned officers, and men must be assigned by name in written orders to the brigade sections and to their sections on the battle-field.

"Every man of the ambulance company will be properly uniformed, will wear leggings, and be equipped with canteen, haversack, and belt.

"A designated number of men will wear the hospital corps litter-sling and orderly pouches herein provided."

CLINICAL MEMORANDUM.

A CASE OF OTITIC BRAIN ABSCESS (FROM CHRONIC OTORRHEA); OPTIC NEURITIS; OPENING OF THE MASTOID AND SKULL; RECOVERY.[1]

By FRANK S. MILBURY, M.D.,
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LARYNGOLOGIST, OTOLOGIST, AND OPHTHALMOLOGIST TO THE BEDFORD DISPENSARY AND HOSPITAL, AND TO THE NORTH BROOKLYN EYE, EAR, AND THROAT HOSPITAL.

ON May 25, 1897, Mrs. J., aged thirty-three, came to my office, bearing a letter from Dr. James J. Bowen, requesting me to examine her and to render my opinion, at the same time stating that he believed a mastoid operation was indicated. As I could get no intelligent history from the patient I interrogated her sister, who stated that there had been more or less continuous discharge from the left ear since infancy, following scarlet fever. At this time it was extremely offensive. By the touch of a sound dead bone was easily perceived in the tympanum and posterior wall of the meatus which was swollen and bulged forward. The mastoid was edematous and very red. The entire side of the head was acutely sensitive to the most gentle pressure. Violent uncontrollable headaches had continued several weeks. Slight paralyses of the left side of the face and right arm and leg existed. Her past life seemed wrapped in complete oblivion, and it was almost impossible for her to put what thoughts she had into words, showing amnesic aphasia. Temperature, 100° F.; pulse, 115. Excessive vomiting on the least movement of the head, and nearly as much when lying down with the head perfectly quiet. The ophthalmoscope showed optic neuritis in the left eye, but the condition of the patient precluded any further examination of the eyes by the perimeter or otherwise. It is possible that there may have been hemianopsia. It was evident that mastoid necrosis and suppuration existed, with possible cerebral abscess and meningitis, and the sooner an operation was performed the better. Accordingly she was placed in the Bedford Dispensary and Hospital.

The next day, May 26, at 11 A. M., with the assistance of Drs. Bowen and Rickard, she was anesthetized, the head was shaved, and under the most careful aseptic precautions we incised the soft tissues, detached the lining membrane of the meatus, laying the ear forward, and retracted the posterior integument, giving a clear view of an extended field. The cortex in places was soft but no fistulæ or pus were visible on the surface of the bone. By cautious chiseling, the antrum was entered. With a probe I explored and found in every direction carious bone, which was easily removed by a sharp spoon, and nearly the entire mastoid was found to be involved. The antrum and large cell at the tip of the mastoid and smaller cells were filled with very foul pus. The lateral sinus came into view, but looked blue and healthy and was pulsating. A large sequestrum was removed from the posterior wall of the meatus, making a broad connection between the tympanic cavity and antrum. The posterior-superior wall, which was soft, was also

[1] Read before the New York State Medical Association.

removed, and the moment the brain cavity was entered pus welled out in large quantities. I enlarged the wound in the skull with a rongeur, and with a sound measured the depth and extent of the pus-cavity. Greatly to my astonishment the instrument passed in about 4½ inches, and I think the sinus had a diameter of fully an inch and involved a portion of the temperosphenoidal lobe. Dr. Arthur C. Brush, a well-known neurologist of Brooklyn, who was called in consultation, is of the opinion that the abscess was, in this case, formed by a localized purulent meningitis, the walls of which were formed by adhesions between the dura and the arachnoid. In other words it was an intradural abscess. He does not think it involved the brain-tissue proper to any extent on account of the rapid and complete disappearance of the symptoms after the pressure was relieved by the evacuation of the pus, which would preclude any destruction of brain tissue.

The position of the lateral sinus would indicate that it was situated above the tentorium, and the direction taken by the probe that it extended inward, forward, and downward; that is, along the superior border of the petrous portion of the temporal bone to, or even beyond, the median line. An abscess in this situation on the left side would, by pressure on the speech-centers, give rise to aphasia with or without paralysis of the muscles concerned in the movements of the face and in speech, on account of their dual representation, and the fact that the more highly organized centers are the ones which are first and most seriously affected. The right hemiplegia is easily explained by pressure on the adjacent capsule. The left facial paralysis was due to the local involvement of the facial nerve in its passage through the petrous portion of the temporal.

Two hours had elapsed in the tedious work and was well borne by the patient, but when we began we had little hope that she would survive the operation. The wound was flushed with a 1 to 6000 corrosive-sublimate solution, dusted with iodoform and dressed with sublimate gauze, a drainage-tube being put in place, and the whole covered with cotton and a roller bandage. She was put in bed at 1:30 P. M.; temperature, 101° F.; pulse, 125; extremities cold. Hot-water bottles were put at the feet and every two hours she was given an injection of strychnin and whisky. The after treatment was long and tiresome. Temperature at 6 P. M., 100° F.; pulse, 120, and at 8 P. M., 110° F. Extremities warm; reaction from ether good; vomited considerably; slept from 12:30 A. M. to 5 A. M.. Frequent vomiting continued for six days, or until June 2, and for twelve days thereafter the temperature varied from 99½° to 101° F.; pulse, from 80 to 120, sometimes weak and intermittent, and at other times full and strong. The patient could retain no food but was nourished by enemata. At the first dressing quite a quantity of pus came from the wound but it was odorless. During the first seven days she remained in a state of almost constant lethargy, uttering no sound and apparently recognizing nothing. On the eighth day when Dr. Bowen called her by name, asking her if she knew him, the response was by quite a firm pressure of the hand. On the ninth day, June 4, and for several days thereafter, when asked a question, the answer would be "no" or "yes, dear," placing her hand upon her head, at the same time giving utterance to the word "pain," but not conscious of what she was doing. On June 7th, when asked how old she was, she shook her head, indicating she did not know, but when told said "all right."

The wound healed kindly, and improvement continued gradually, but slowly, until a complete restitution of the mind and a disappearance of the paralysis of the face, arm, and leg resulted. The hearing in the left ear is, of course, gone, but her vision is now normal. At rare intervals she will say peculiar things, apparently not realizing what she is uttering.

I have been unable to discover a parallel case in literature and doubt if there is one. It was seen by a large number of well-known physicians, but none could understand the existing condition, and the greatest mystery of all is the recovery. Another peculiar feature is the fact of her being about four months pregnant, and through it all did not abort. The mental condition was probably due to the abscess and pressure on the brain, which occasionally occurs in such cases.

MEDICAL PROGRESS.

Effects on the Tissues of the Different Fluids Used in Surgery.—VAN DER VELDE (*Rev. de Therapeut.*, July 1, 1898) has drawn the following conclusions from a study of the effects of various fluids on the cells of the blood and the tissues. Plain distilled water alters the blood-cells at once, destroying many of them. In physiological salt solution even the most delicate cells preserve their appearance and their functions as well. The various artificial serums, so called, suggested by Hayem, Cheron, and others, and which contain in addition to sodium chlorid a certain amount of sodium sulphate or other salts, possess no advantages over the physiological salt solution, and exert a more or less harmful action on some of the cells. Antiseptic solutions, whether of bichlorid of mercury, carbolic acid, boric acid, permanganate of potash, formaldehyd, nitrate of silver, etc., are so destructive to the tissues that the effect of a drop of them is often visible to the naked eye. They ought, therefore, never to be used in fresh wounds or in serous cavities. And even in the uterus, as after a curettement, it is better to use the saline solution six parts per thousand to wash out the débris, for the shape of the cavity makes a perfect disinfection of its lining with a fluid an impossibility, and by using the saline solution the danger of poisoning is avoided.

The Increase of Cancer and Its Cure by Cataphoresis.—MASSEY (*Vir. Med. Semi-Monthly*, June, 1898) presents a table showing the increase of cancer in Philadelphia during the last thirty years, basing his conclusions on the official reports of death from this disease. Thus in 1861 there were 31.7 deaths from cancer to every 100,000 of the population, an average which has risen

almost constantly until in 1897 the ratio was 56.6 to 100,000. In the former year cancer was the assigned cause of 1.36 per cent. of the deaths, while in the figures for last year it was the assigned cause in over 3 per cent. of all deaths. In England a similar increase has been noted. In 1861 there were only 37.6 deaths from cancer to 100,000 inhabitants, while in 1886 the number had risen to 61.

Massey has had good results in the cure of cancer by the dissemination throughout the growth of the nascent oxychlorid of mercury, or the mixed oxychlorids of zinc and mercury, using a powerful galvanic battery capable of generating a current of 1500 milliamperes for half an hour or more if necessary. Anesthesia is required, and a gold electrode, with a covering of mercury, or an electrode of zinc and mercury is thrust into the growth while large dispersing pads are placed on different parts of the body. Every effort is made to cure the growth at one sitting. Seven patients are reported to have been cured, both carcinoma and sarcoma being included in the list.

Advantages of Nitrous Oxid Mixed with Oxygen for Brief Anesthesia.—GARDNER (*Brit. Med. Jour.*, April 30, 1898) has had such good success from the use of a mixture of nitrous oxid and oxygen for inducing brief periods of anesthesia, twenty minutes or less, that he cannot recommend it too highly. The symptoms accompanying inhalation of nitrous oxid alone are cyanosis, jerky, rapid breathing, twitching of the limbs, and dilated pupils. These objectionable results are avoided by the admixture of oxygen, and a little practice enables the anesthetist to administer the gases in the right proportions. If the breathing grows faster and deeper and the color a trifle dusky, more oxygen is wanted; if quieter and slower, the oxygen must be reduced. At the beginning of the inhalation the patient is given only 2 or 3 per cent. of oxygen, but this amount is gradually increased until 10 or 20 per cent. is reached. The color is normal, the breathing of a softly snoring type, not so stertorous as with ether, not so quiet as under chloroform; the pulse is strong, full, and regular; the abdomen is generally quite flaccid, but the limbs may show a slight tendency to rigidity; though the legs will offer no resistance to being placed in the lithotomy position, they may show slight reflexes from time to time. The blood from an incision during this anesthesia may appear somewhat venous at intervals; this is not, however, due to congestion, but to the fact that nitrous oxid to some extent replaces oxygen in the hemoglobin and the purple color of the new product becomes evident in the flowing blood, even while the facial color is healthy in appearance. Alcoholic patients are not good subjects, nor are very powerful athletic men; but most women and well-nourished persons generally can be regarded as suitable cases, while those who are weakened by illness often take the gases remarkably well.

Frequency of Gall-stones in the Subjects of Mitral Stenosis.—BROCKBANK (*Edinburgh Med. Jour.*, July, 1898) publishes some tables to illustrate the frequency of gall-stones in patients suffering from mitral stenosis. His investigations extended over a period of six years, and the conclusions are based on more than 1300 autopsies. A distinction is made between primary and secondary cholelithiasis. The former occurs in people who are generally over fifty years of age, and otherwise healthy. It is probably due to same nutritional change in the epithelial lining of the biliary passages, so that more cholesterin than usual is secreted, or the solvent power of the bile is decreased. Primary cholelithiasis is rarely met with post-mortem.

In secondary cholelithiasis, the stones are formed at an earlier age in a patient who is suffering from some other complaint, generally of the heart and liver. This condition is fairly common post-mortem, but is rarely suspected during life.

In all, Brockbank found gall-stones in 7.4 per cent. of the autopsies made. They were about four times as frequent in women—15 per cent.—as in men, 4 per cent. Schroeder of Strassburg found them in 4.4 per cent. of male subjects, and in 20.6 per cent. of female subjects.

Gross cardiac lesions seem to double the risk of development of gall-stones in both the male and female, for while in the subjects having normal hearts the percentage of those having gall-stones was 5.4, they were present in 10.9 per cent. of the subjects with imperfect hearts. Of the subjects having mitral stenosis, the proportion with gall-stones was highest of all, or 16 per cent. for males, and 25 per cent. for females, or 21.8 per cent. for both sexes together.

The further interesting fact is reported that the bile in the gall-bladder of many patients who have died from chronic heart disease, but in whom no gross evidence of cholelithiasis is manifest, if examined microscopically, will often be found to be full of desquamated epithelial cells, floating singly or in clumps, together with a few cholesterin crystals. If such bile is examined from day to day it will be seen that the epithelial cells gradually disappear, and that the crystals increase, until the bile contains innumerable numbers of them. Perhaps no better explanation of these phenomena can at present be given than to say that the lowered vitality of the system generally, and the passive congestion of the mucous membrane of the gall-bladder, which accompany severe chronic lesions of the heart, predispose to the formation of an increased amount of cholesterin by the epithelial cells of the biliary passages, and by the enforced inactivity of the patient this excess of crystalline substance tends to remain behind in the dependent fundus of a frequently enlarged, depressed, and sluggish gall-bladder.

Hemiplegia Following the Administration of Chloroform.—INGELRANS (*L'Echo Med. du Nord.*, June 26, 1898) mentions that right-sided hemiplegia developed in a somewhat nervous, but on the whole healthy, woman, upon whom a laparotomy had been performed for uterine fibroids. The operation was not a difficult one, and lasted about an hour. Nothing abnormal was noticed until about four hours later, when it was observed that the right arm and leg of the patient were completely paralyzed, motion and sensation being alike impossible. The face was less affected and she spoke with some difficulty.

Improvement in the symptoms began almost immediately, but for three weeks there was complete incontinence of both bladder and rectum. Sensation returned before motion. Power was first restored in the leg, and more slowly in the arm. Two months after the operation she was able to leave the hospital, although restoration of function was by no means complete. There was a suspicion of syphilis in the case, but the patient, although a widow, had never miscarried nor borne children. Iodid of potash was given from the time of the attack.

Ingelrans was able to collect from medical literature fourteen cases in which a paralysis, either motor or motor and sensory, followed the administration of chloroform. This accident was variously explained by the different operators. In one case it was ascribed to hysteria; in another to an old apoplectic attack. At autopsy in one case there was found a fresh hemorrhage in the brain, in another an area of cerebral softening without obvious cause, and in a third a serous effusion into one of the ventricles. Besides the advocates of the theories of cerebral hemorrhage and cerebral anemia with necrosis, to explain the paralysis, there is also those who say that chloroform has a direct toxic action on the cells of the body, and they cite the presence of albumin in the urine after chloroform as a proof of this. There is wanting, however, the clinical evidence to support this explanation of the paralysis.

The prognosis of this complication of anesthesia is good. Three of the patients whose cases have been reported died in a short time, but none of them from the effects of the paralysis. One died from a bronchopneumonia, one from the cancer which was the cause of the operation, and one from the sequelæ of his strangulated hernia. In all the other cases the paralysis either disappeared entirely, or was greatly improved at the time the report was made.

THERAPEUTIC NOTES.

The Cure of Writer's Cramp.—MONELL (*Med. Record*, July 23, 1898) makes some pertinent remarks about the so-called neuroses, "writer's" or "telegrapher's cramp." These troubles are not really neuroses, but are the result of malnutrition. After exercise a muscle repairs its wasted fibers during a period of rest. When the use has been so violent or so long-continued that this repair cannot take place there is a permanent impairment of the muscle. It cannot be restored to its normal condition by rest. Were this possible almost all of the severe cases of telegrapher's cramp would be unknown, for all of these patients give a history of periods of rest in the attempt to regain lost power. The fact that the cramp occurs is only another way of saying that the muscles have lost the power of repair through rest. Hence it is worse than useless to tell these patients to rest.

Massage is successful in a certain number of cases in restoring the patient's muscles to their previous condition, but it is at best a clumsy way of accomplishing this end, and in the severer cases it fails of its purpose. The nutrition can, however, be restored by the persistent use of galvanic and static electricity. The plan of treatment advocated is to give the muscles first a gentle warming-up application to quicken the circulation, as the preliminary canter warms up a racehorse before he enters the race. The arm is next subjected to general nutritional muscular contractions, regulated in energy and number by the tolerance of the tissues. Finally the arm is given a refreshing, restful, nutritional application, which leaves it at the close of treatment invigorated, buoyant, and elastic. The total treatment requires about ten minutes, and every moment and every detail of each application aims at improving the nutrition of muscle-fibers. In all cases, even the most severe, such treatment will give in a week's time a feeling of comfort, and in the lighter cases there will be in two weeks a complete cure so that the patient may return to his work. In severer cases treatment must be longer continued, but no case is so severe or so long standing that it may not be fully cured in from forty to sixty treatments. General treatment of the health is naturally attended to, and in every case the local improvement will continue long after the treatment has been suspended. In the more severe cases it is desirable that the patients come back every year for a fortnight's treatment. The value of this treatment in improving the nutrition of the muscles is also shown by the fact that there is no operator of long experience, no matter how fine he may think his arm, but can be improved twenty-five per cent. in speed and ease of operating by a dozen treatments. For the details of this method of treatment the reader is referred to the author's "Manual of the Use of Static Electricity in X-Ray and Therapeutic Uses."

Recovery from a Large Dose of Strychnin.—LEFFINGWELL (*Phila. Med. Jour.*, July 23, 1898) reports his successful treatment of a patient who had swallowed 10 grains of strychnin with suicidal intent. The period of time that elapsed between the taking of the poison at the beginning of the treatment could not be learned. The whites of eight eggs were given, and immediately afterward a large teaspoonful of mustard in a glass of water. This was followed up until the stomach had repeatedly emptied itself.

During this time three clonic spasms occurred, affecting the lower jaw, the upper extremities and anterior muscles of the trunk of the body, the lower extremities being wide apart and motionless. Sudden noises or voices, and only slight contact with any one around the patient, without his permission, would excite another attack; and the number of these during the eleven hours he was under treatment was about forty, lasting from ten to thirty seconds each.

Ice-water was given for the great thirst, and the patient was then allowed to inhale ether to control the convulsions. Bromid of potash was given in 20-grain doses at intervals of every half hour, and then of every two hours until 140 grains had been taken. Morphin sulphate was injected subcutaneously, ¼ of a grain every two hours, until the pain in the lower extremities was relieved and the threatened asphyxia passed over. After twelve hours of treatment it became evident that the man would recover, as the pains were much less, and he was able to draw up his lower extremities.

THE MEDICAL NEWS.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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Address the Editor: J. RIDDLE GOFFE, M.D.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK.

Subscription Price, including postage in U. S. and Canada.

PER ANNUM IN ADVANCE $4.00
SINGLE COPIES 10
WITH THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, PER ANNUM 7.50

Subscriptions may begin at any date. The safest mode of remittance is by bank check or postal money order, drawn to the order of the undersigned. When neither is accessible, remittances may be made, at the risk of the publishers, by forwarding in *registered* letters.

LEA BROTHERS & CO.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK,
AND NOS. 706, 708 & 710 SANSOM ST., PHILADELPHIA.

SATURDAY, AUGUST 20, 1898.

"THIS ARMY MUST BE MOVED AT ONCE OR PERISH."

SUCH is the startling announcement that came from the officers of the victorious army after the surrender of Santiago and finally aroused the authorities at Washington from their lethargic indifference to the fate of those gallant men. It came in response to an order to move the camps up into the hills where the exhausted and disease-stricken soldiers could be made as comfortable as the tropical rains and torrid sun and miasmatic climate would permit; while the transports which might be used in bringing them home were preparing to carry out to Porto Rico the politicians' friends for a holiday tramp across that innocent island. Almost simultaneously came the telegram from General Miles, "Do not send me any more troops," and the remonstrance of the Round Robin from General Shafter's officers, "This army must be moved at once or perish."

What more startling rebuke could be given to departmental incompetency, or what handwriting on the wall could say with more distinctness, "Thou hast been weighed in the balance and found wanting?" It is a fitting climax to the incompetency that landed the army in Cuba and abandoned it to its fate devoid of necessary medical and surgical supplies and the commonest commissary stores, and yet no one was responsible! Most glowing accounts appeared of the up-to-date preparations for caring for the sick and wounded—improved ambulance and hospital facilities, ingeniously compact delicacies for the sick, etc., and yet when the demand for them came almost nothing was at hand—a complete breakdown of the service, and no one responsible! Thousands of brave men who have done their duty valiantly in the face of the enemy incapacitated for want of proper food and shelter, and hundreds dying because of insufficient transportation and hospital facilities, and no one reponsible! Every National Volunteer camp in the country seriously afflicted with typhoid fever, and no one responsible!

Such shocking, such mortifying spectacles as the "Breakwater," the "Seneca," and the "Concho," aggravated later by the "Santiago," the "Comal," and the "San Marcos," bowing the richest, the most resourceful nation in the world in shame, and no one responsible! A large proportion of the suffering endured and death sustained by our soldiers, admitted on all sides as avoidable and hence, unnecessary, and yet no one responsible! A universal demand for an investigation and the fixing of the responsibility, and yet no investigation ordered! But come it will.

As Columbia says to Uncle Sam, "The *Government* must fix the responsibility or the Country will."

HOSPITAL REPORTS.

THE example set by three large hospitals of this country—the Johns Hopkins of Baltimore, the Massachusetts General of Boston, and the Presbyterian of New York, should have, as we believe it will, a larger immediate following. The presentation in well-printed form of unusual, interesting, or even of a series of ordinary cases, occurring in hospital services, fulfils a didactic purpose of no mean value. We are all too familiar with the hackneyed hospital report. It is a carefully compiled statement of how many pounds of candy Mrs. X. has sent to the children's ward, of how many religious journals have been donated to consume the time of convalescent patients, and of how many pillow-cases and nightgowns the Young Woman's Auxiliary Society has

given. It runs over with praise of every one connected with the institution from the governing board to the orderlies, while the medical and surgical work of the year is condensed into a few statistical pages.

We assume that such printed rubbish is essential to the well-being of hospitals, else the custom of giving it annual birth would long ago have ceased. Governing boards are learning, however, that every hospital is obliged to fill certain didactic functions, and when clinical teaching cannot be directly given, the publication by the medical board of reports such as that the Presbyterian Hospital recently issued, in part assumes this function, though somewhat vicariously.

The educational worth to the hospital interne of accurate record-making and the careful taking of histories, essential to a published report of cases, is important, too. It draws him away from hackneyed lines, it sharpens his powers of observation, and augments the value of his clinical experience in proportion to his native ability and the watchfulness of his superiors. Nor is the literary value of such efforts to be despised, a consideration for the future usefulness of internes trained to observe, to write, to teach.

The variety of subjects covered can be duplicated, we do not doubt, by any metropolitan hospital and by many such institutions, indeed, in smaller towns. Since the aggregate fund of hospital experience forms the basis of most teaching and of most medical knowledge, medical boards should feel it incumbent upon themselves to assist in the diffusion of medical learning by the systematic publication of the real medical and surgical work in their respective hospitals. We are far behind England, France, and Germany in this respect. Perhaps with our now advanced position among the nations of the world, we will improve in the matter of hospital reports, too.

THE TONSILS AS CHANNELS OF INFECTION IN TUBERCULOSIS.

A FEW years ago Dr. G. Sims Woodhead, in a very thoughtful and scholarly address, suggested, and in a measure proved, that tuberculous infection of the glands of the neck occurs frequently through the tonsils, especially in children living under unsanitary conditions and subject to various devitalizing influences. His investigations tended to show that the rôle played by the tonsil and the surrounding lymphoid tissue in antagonizing infection when its tissues are normal, and in facilitating infection when diseased, is more important than usually considered. Recently Dr. Hugh Walsham of London has busied himself with the same subject, and the results of his studies are embodied in an article in a recent issue of the *Lancet*. He made a careful examination of the tonsils and follicular glands at the base of the tongue of every subject of tuberculosis which came before him for post-mortem examination at the City of London Hospital, and he also examined a large number of tonsils and adenoid vegetations that had been removed by surgical operation.

In the vast majority of post-mortem cases there was no symptom during the life of the patient to call attention to the tonsils. Despite this, in twenty out of thirty-four subjects examined these glands were found to be tuberculous. The results of his examination of tonsils and adenoid tissue removed from living patients were entirely negative, as in no one was indications of tuberculosis found. Walsham believes that the view of so many pathologists and clinicians that the tonsils are almost immune from tuberculous disease, is absolutely untenable, and that these glands are very often affected. Whether the tubercle is often primary of the tonsil, as was suggested by Woodhead, cannot be determined with any degree of positiveness, for although it is sometimes primary, the tonsils are very frequently affected secondarily in persons suffering from pulmonary tuberculosis. Concerning the way in which the tonsils become affected, he believes that it may be from without, or in acute miliary tuberculosis through the blood stream. When the tonsils are tuberculous the cervical glands receiving the lymphatics from these organs are frequently affected with tubercle, but the follicular glands at the base of the tongue are rarely implicated.

One practical application of these studies seems very apparent, and that is, that disease of the tonsil, even though slight and apparently insignificant, may open up a highway to tuberculous infection which would otherwise be impregnable, for it is highly improbable that the bacilli penetrate the normal intact

epithelium lining the tonsillar crypts. It would be interesting to know, now that the tonsils have been shown to be channels of infection in tuberculosis, if statistics show that persons who have had partial or complete tonsillotomy are more susceptible, or less so, to cervical and intrathoracic tuberculosis.

ECHOES AND NEWS.

The Will of Dr. Pepper.—Dr. William Pepper left no public bequests. His will provided for a gift of $75,000 to the University of Pennsylvania, but a recent codicil revoked it.

Effects of Sanitation at Santiago.—The sanitary precautions taken since the occupation of Santiago by the United States forces, according to the latest reports, have reduced the average daily death-rate from 103 to 37.

A Cheering Cargo for the Invalids at Santiago.— The Auxiliary Cruiser "Yale" left New York recently for Santiago with a large quantity of commissary stores, including medical stores and delicacies. Among the latter were 1000 bottles of champagne, 5000 bottles of ginger-ale, 200 cans of malted milk, and 1000 cans of beef extract.

Michigan State Board of Health.—Dr. Arthur B. Reynolds, Health Commissioner of Chicago, in an address recently delivered at Detroit, said "It is not too much to say that the State Board of Health of Michigan has, in the language of our great classic in hygiene, Edmund Parkes, made growth more perfect, decay less rapid, life more vigorous, death more remote, for every citizen within the boundaries of this fair State."

A Bullet Successfully Removed from the Spinal Column.— Dr. F. D. Bird of Melbourne, Australia, gives an account in the *Inter-Colonial Medical Journal* of a patient treated by him for gunshot injury near the angle of the jaw. After the flesh wounds had healed, some cervical pain and stiffness of the neck on the left side were felt. A skiagram of the neck was taken revealing a foreign substance in the body of the axis. This proved to be a bullet, which was removed, the patient making a complete recovery.

New York Post-Graduate Medical School.— The seventeenth annual announcement of the New York Post-Graduate Medical School and Hospital, University of the State of New York, for 1898–99 has just been issued. It records 523 practitioners of medicine as in attendance upon its courses during the past year. They came from the various States of the Union and the Dominion of Canada. There were ten physicians from foreign countries, two of these being from India and one from Japan. Only 96 were from the State of New York.

Health of the Eighth Massachusetts Regiment.—Colonel Pew of the Eighth Massachusetts Regiment, stationed near Santiago, reports that his is the healthiest regiment in Cuba. It would be interesting to know what particular circumstances have brought about this condition. Have the soldiers of Col. Pew's command had less intercourse with the refugees than the men of other regiments? Have they had less experience in the trenches? Where have they been encamped; on the hills or near the coast?

The Physical Condition of Capt. Clark of the "Oregon".—Captain Charles E. Clark, commander of the battleship "Oregon," upon the report of the Board of Medical Survey, has been relieved of his command and granted a leave of absence. Captain Clark has broken down physically under the terrific strain to which he has been subjected during the last four months. The wonderful record made by the "Oregon" on that 15,000-mile voyage is generally conceded to be due to the efficiency of Captain Clark, although Chief Engineer Millikan is entitled to some of the credit.

Yellow Fever in Louisiana.—A fatal case of yellow fever was reported August 12th at Franklin, La. The Louisiana State Board of Health has quarantined the entire parish of St. Mary, and forbidden all railroad trains stopping there. The States of Texas and Mississippi have both quarantined against the parish. Surgeon-General Wyman promptly sent two Marine Hospital surgeons to investigate the report, remain on watch, and quarantine all suspicious cases. The reported case is supposed to have originated from the tearing down of a shed which became infected last year. The shed should have been destroyed by fire. If such is the history of the case no difficulty should be experienced in preventing any spread of the disease.

Chronograph Watches for Nurses.—The latest edition to the equipment of the trained nurse is a chronograph watch. These watches are especially made to enable trained nurses to accurately take the pulse of their patients. The moment the pulse has been taken, the large second hand can be instantly stopped by a slight pressure upon the stem of the watch. If there has been any uncertainty or fluctuation in the pulse, the second hand can be quickly thrown back to the starting point and the pulse re-taken without in any way interfering with the other mechanism of the watch. It is said that the first timing watch was made about fifty years ago and was called the "surgeon's pulse," which indicates that one of the present uses of the watch by physicians and nurses is really going back to first principles.

Immune Regiments for Santiago.—The fact that a number of men, who had survived an attack of yellow fever, enlisted and went to the front with the full assurance that they could face the dread disease with impunity, have been attacked with yellow fever, and some of them even died from it, has put a new phase upon the significance of the word immune. It is quite possible that life in a Northern climate so renovates the system after an attack of yellow fever as to interfere with the proper balance between the toxins and antitoxins, and so destroys the security against a second attack. If this

proves to be the case, it will be necessary to secure an immune army from the ranks of men who have continued to live in a tropical or semi-tropical climate after the first yellow-fever attack.

Compulsory Vaccination in England.—As a result of the recent epidemic of smallpox, which brought such distress upon the inhabitants of Gloucester, a bill making vaccination compulsory was introduced in the English Parliament. It was generally understood that the Government party was united and determined in its decision to pass the bill, but suddenly some move on the political checkerboard changed the whole aspect of the question, and an amendment was passed by the House of Commons which rendered the compulsory clause nugatory. This clause provides that "no parent or other person shall be liable to any penalty for violating the law, provided he satisfies two Justices in Petty Sessions that he conscientiously believes that vaccination would be prejudicial to the health of the child." This unexpected change of front on the part of the leaders of the Government party is thought to have been due to the Reading election which was going on at the time. The anti-vaccination party is strong in Reading; it is an important town, and the Government was anxious to retain the seat. Our sympathy goes out to the profession of England in its dilemma. We, on this side of the water, have had occasion to bemoan similar miscarriage in legislative sanitary measures and for similar reasons.

Personal Characteristics of the Late Dr. William Pepper.—It is said of Dr. Pepper that he rarely spent as much as six hours nightly in bed, and took the balance of his sleep as he needed it throughout the day. Short naps were his only relaxation, and sleep was to him as wine and was taken as readily. "Will you excuse me, Mrs. ———," he would say sometimes, "I could talk with you much more satisfactorily if I had a few minutes' nap. Nurse, make Mrs.——— comfortable and wake me in ten minutes." Ten minutes later, he would be aroused by the nurse and at once resume his conversation with the patient at the point at which he had dropped it. He would sleep in his carriage as he was driven from one appointment to another; he would sleep in the train, in a strange parlor or library, in private or public, absolutely indifferent to comment. "I have already seen the patient, gentlemen," he sometimes said to consultants, "I will not go in with you; just wake me when you have finished your examination." Dr. Pepper's brain was always at work. His valet and stenographer awoke him at 6.30 A.M., and he began hearing letters and dictating answers at once, his valet, meantime, dressing him. He dictated from his bath, while he was being dressed, at his breakfast, and sometimes for an hour afterward. In his consultation work, special railway trains were the familiar time-saving devices, and his familiarity and influence with railroad presidents enabled him to order them as he would cabs. Dr. Pepper was one of the most tactful men in dealing with patients. He sometimes kept three or four patients "in the air" at once, all sitting in his inner office, and each, under the power of his tact, as well satisfied as if he were given a private hearing.—*New York Herald.*

Quarantine Regulations for Cuban and Porto Rican Ports.—To expedite the movement of the transports bringing soldiers from Cuba and Porto Rico and to minimize the danger of their exposure to infection, Marine Hospital surgeons have been detailed for duty at Santiago and Ponce to enforce the quarantine laws, to issue certificates, and to perform other duties of sanitary or port inspectors. The system will be extended to other Cuban and Porto Rican ports as fast as they are acquired by the United States forces. At Santiago and every chief port where practicable, a receiving ship will be stationed for the reception of those who take passage for ports in the United States. This ship will be practically a detention camp and quarantine station, and passengers seeking homeward voyage are to be taken from the receiving ship after they have undergone a period of observation and disinfection of baggage. This precaution, together with the placing of a Marine Hospital surgeon in charge of every transport bringing soldiers from the front, will render unnecessary such vexatious delays in quarantine as have recently been imposed on the vessels conveying wounded and convalescent men to the United States, as the disinfection of the transports will not then be required. Secretary Alger has issued the following order on the subject: "All sanitary matters pertaining to the condition of transports and crews are to be placed under the jurisdiction of the medical officers of the United States Marine Hospital Service. Every vessel engaged in the transport service between the United States and Cuban or Porto Rican ports is to carry a medical officer of the army or of the Marine Hospital Service, whose duty shall be that of sanitary inspector of the vessel, and who shall see that in a foreign port no material or person is taken aboard liable to convey yellow fever; to keep the crews of the transports under surveillance, and on the return voyage act as sanitary inspector."

Duties of Marine Hospital Surgeons on Transports.—Surgeon-General Wyman of the Marine Hospital Service has issued the following instructions for the guidance of Marine Hospital surgeons detailed for duty on army transports: "Your duties are primarily to keep the transports from becoming infected. At the foreign port the crews must be forbidden and prevented from going ashore; everything brought on board from shore must be inspected, and, if doubt exists, rejected or disinfected. All persons coming on board at foreign ports must be inspected at the gangway. Vessels must lie off the shore and not go to dock. Certificates from medical officers of the Marine Hospital Service on duty at Santiago and other ports should be accepted. If troops are brought on board, obtain certificate from responsible medical officer of the army of freedom from infection. No passengers should be allowed on board except on written order of the commanding general (see correspondence on this subject with War Department, copy herewith inclosed). If a transport brings back sick or wounded soldiers the latter are under the care of the medical officer of the army detailed for this

purpose. For their treatment, medical supplies, etc., the Medical Department, United States Army, is responsible. The crews of the vessels, however, are under your professional care, and a supply of drugs, etc., has been sent you for this purpose. If, however, you are called on by the proper authority for assistance of the sick or wounded soldiers, you are authorized to render it. In absence of a regular medical officer of the army you will, of course, render such assistance as the ordinary dictates of humanity demand. Look carefully after water-supply. Keep accurate notes and furnish such certificate as you are able to give to the quarantine officers at the port of arrival in the United States. Transmit reports to bureau on arrival in home port. At Santiago and other ports you will communicate with the medical officer of the Marine Hospital Service in command, and will receive and obey any reasonable order from him. Disinfectants will be furnished from the bureau on requisition as soon as practicable, but if for any reason purchase is necessary, the officer may purchase in accordance with the regulations of the Marine Hospital Service. These instructions will be amended or added to hereafter, and if for any cause it is impracticable or impossible to enforce them, the officer must carry out their spirit, if not their letter, to the best of his ability, and then report the facts to the bureau." The medical officers on duty on the army transports have been furnished with necessary outfits, and to those at Santiago steam chambers, boilers, sulphur furnaces, generators, and a large quantity of disinfecting material have been forwarded.

New York State Medical Association.—The regular annual meeting of the New York State Medical Association will be held at 64 Madison avenue, New York City, on October 18, 19, and 20, 1898. The following is the preliminary program: "A Practical Demonstration in the Reduction of Infantile Mortality," by Dr. E. F. Brush of Mount Vernon; "The Pneumogastric Nerve in the Production of Stomach Disease," by Dr. Julius Pohlman of Buffalo; "The Coccyx," by Dr. J. E. Walker of Hornellsville; "Drugs *versus* Cardiac Insufficiency," by Dr. O. T. Osborne of New Haven; "The Passing of Alcohol," by Dr. J. M. Farrington of Binghamton; "A New Method of Amputation at the Knee-joint Applicable in Cases of Senile Gangrene of the Foot," by Dr. Stephen Smith of New York; "Anthropological Rambles in the Orient, Especially in the Island of Java; Profusely Illustrated with Stereopticon Views," by Dr. H. Ernst Schmid of White Plains; "Dental Pathology in Its Relationship to General Health," by Dr. Dwight L. Hubbard of New York; "Subnormal Temperature," by Dr. Leroy J. Brooks of Norwich; "Ancient and Modern Animal Products Used as Medicines," by Dr. T. J. Acker of Croton-on-Hudson; "The Treatment of Cases of Pulmonary Tuberculosis That Cannot Go Away from Home," by Dr. Delancey Rochester of Buffalo; "Some Observations of General Interest Regarding the Course and Management of Cataract," by Dr. J. H. Woodward of New York; "Technic and Use of Saline Infusion," by Dr. Thomas F. Reilly of New York; "What to Do to Be Saved, Being the Conclusion of the Inquiry into the Abuse of Medical Charity," by Dr. Thomas J. Hillis of New York; "True and False Medical and Other Charities," by Dr. Wickes Washburn of New York; a paper by Dr. Charles Phelps of New York, title not yet announced; "Genital Neuralgia and the Genito-reflex Pains," by Dr. F. P. Hammond of New York; "Lantern-Slide Exhibition," by Dr. S. Alexander of New York; "A Case of Attempted Obliteration of the Deformity in Pott's Disease," by Dr. Charles Allen Tuttle of New Haven; "Notes on Neuralgic Affections of the Head," by Dr. Gustavus Eliot of New Haven; "The Use of Catgut Sutures in Ventrofixation of the Uterus," by Dr. J. E. Janvrin of New York; "Traumatic Tetanus—Report of a Case Following an Attempted Operation, Treatment, etc.," by Dr. Z. J. Lusk of Warsaw; "Some Thoughts on Rational Treatment of Disease," by Dr. Chauncy P. Biggs of Ithaca; "Senility," by Dr. F. W. Higgins of Cortland; "A Case of Extra-uterine Pregnancy Operated upon at Term," by Dr. Eli Van deWarker of Syracuse; "Memoranda," by Dr. H. D. Didama of Syracuse; "Diagnosis and Surgical Treatment of Renal Calculus," by Dr. N. Jacobson of Syracuse; "Eye Lesions in Some Diseases of the Kidney," by Dr. H. S. Oppenheimer of New York; "Insanity Following Surgical Operations," by Dr. W. D. Granger of Bronxville; "Dermoid Cysts of the Ovary," by Dr. C. E. Fritts of Hudson; "The Operative Cure of Inguinal Hernia in Men," by Dr. E. D. Ferguson of Troy; "Urethral Stricture," by Dr. J. W. S. Gouley of New York. A discussion on intestinal obstruction comprising the following papers: "Introduction," by Dr. Parker Syms of New York; "The Causes of Acute Intestinal Obstruction, with the Description of Their Mechanism," by Dr. E. D. Ferguson; "The Causes of Chronic Intestinal Obstruction, with a Description of Their Mechanism," by Dr. J. D. Bryant of New York; "Intestinal Obstruction Due to Impaction of Feces, Gall-stones, Foreign Bodies, etc.," by Dr. J. W. S. Gouley; "The Diagnosis and Indications for Treatment of Acute Intestinal Obstruction," by Dr. J. D. Rushmore of Brooklyn; "The Diagnosis and Indications for Treatment of Chronic Intestinal Obstruction," by Dr. Leroy J. Brooks; "Intestinal Obstruction Due to Intussusception and Volvulus," by Dr. John F. Erdmann of New York; and "The Technic of Operative Treatment of Intestinal Obstruction," by Dr. Frederick Holme Wiggin of New York.

CORRESPONDENCE.

MUCOUS-MEMBRANE ERUPTION IN MEASLES.

To the Editor of the MEDICAL NEWS.

DEAR SIR: I read in your issue of June 25th, on page 818, an article called "Koplik's New Sign of Measles," and, also, Dr. A. L. Hall's comment thereon in the MEDICAL NEWS of the 23d ult., on page 122, with considerable interest. I am fully in accord with Dr. Hall's observations with regard to the sign not being very new for I have made use of it in almost all of my cases during the past eight years. I do not recall ever having seen it

mentioned in print before, but because of its great frequency I have no doubt that many physicians have observed and recognized its value.

I have a record of one case where this sign was present forty-eight hours before the skin eruption appeared and because of it I made a positive diagnosis of measles. I consider it the very earliest absolute sign of measles.

This difference from Slawyk's report I must make: I find the eruption located first on the mucous membrane about the junction of the soft with the hard palate on the roof of the mouth. I have observed it at this point when nowhere else, and in about ninety per cent. of all my cases. The average time of its appearance before the skin eruption was about twelve hours.

Respectfully,

EMMERT C. STUART, M.D.

PITTSBURG, PA., August 15, 1898.

OUR FOREIGN LETTER.

[From Our Special Correspondent.]

CERTAIN FORMS OF SORE FEET IN SOLDIERS AND RECENT REPORTS OF GERMAN MILITARY SURGEONS —NO FOREIGN SCIENTISTS PERMITTED AT THE CONGRESS OF POLISH NATURALISTS AND DOCTORS —A CASE OF GIGANTISM IN A CHILD AGED FOUR YEARS—TUBERCLE BACILLI AND THE PRODUCTION OF HEART LESIONS.

BERLIN, August 9, 1898.

A RECENT number of the *Deutsche Medicinische Wochenschrift* reviews three articles that have appeared within the last year on that indefinite condition swelled foot or edema of the feet, that so often occurs in people, like soldiers, who are much on their feet and have in addition suffered from slight accidents. The articles are all from military medical men who have made special studies of the subject and of late have called the Röntgen-rays to their aid in the matter. One of the articles I called attention to some time ago in this column, but circumstances seem to invite more special attention to it just now. All three of these surgeons have found that these foot conditions which are apt to be set down simply as sprains, and really make up the vast majority of the cases that are entered in case-books under the indefinite head of sprained ankle, are really due to fractures of the metatarsal bones. In certain cases the line of fracture can be distinctly seen in the Röntgen photographs, though in many it cannot. In some even after the healing the callus is visible in the same way. Kirchner reports fifty-five cases of the condition in all of which some characteristic symptoms of fracture could be demonstrated when it was carefully looked for. He considers that in all of these cases in which, after slight injury, a turn on the foot, a misstep, sometimes the failure to notice a step, or the like, edema of the foot develops, with tenderness when the foot is used, the underlying pathological condition is a metatarsal fracture. The treatment is, of course, rest and then firm support that practically immobilizes the metatarsal joints afterward. He warns especially against meddlesome massage and attempts to reduce the swelling in the early stages and overcome the stiffness that is Nature's protective mechanism, during the progress of the cure, by manipulations of the foot. Such misdirected efforts lead to the development of that chronic soreness so often seen as a sequel in these cases, and which may persist as a torture to the patient for the remainder of life.

The German government has evidently taken to heart the lesson furnished by the results of the *laisser-aller* policy of the Austrian government in the matter of Slavish agitation. The eighth annual meeting of the Polish Naturalists and Doctors was to have been held at Posen in the German province of the same name, from the 1st to 4th of August. It was announced that a number of Czechish and Russian scientists and medical men were to be present and there was an evident purpose to rival by anticipation the German Congress of Naturalists and Physicians to be held at Dusseldorf the beginning of September. Recent events in Austria and the tone of certain Polish, and especially Czechish journals, seemed to indicate that the occasion was to be made use of as a sort of love-feast for the Slavs—a family reunion of the branches of the race, at least as regards its scientific and medical men.

Any such purpose the German government of course considers as liable to be subversive of the peace that has always reigned in the Eastern German provinces between the Germans and Slavs, despite the considerable number of the latter that are there. They had before their eyes the warning example of a Slavish Congress held in Prague some months ago, in which the Russian representative, a little flushed with generous wine perhaps, stated in no dubious terms the purpose of the Slavs to have their revenge for their centuries of subjection to German sway. The attendance of foreign scientists and medical men at the Congress at Posen was, therefore, officially forbidden by the police president of the Province. The Committee of Arrangements of the meeting protested against this decree. They pointed to the fact that the Congress had been held in Posen some years ago, and, without any such uncalled for regulation, had simply and faithfully devoted its time to the scientific purposes for which it meets and that there had been no political agitation. The protest did not avail, however, despite the fact that the committee pointed out that invitations had been already sent to certain foreign scientists and accepted by them, there having been no question in the mind of the committee of possible discourteous interference on the part of the police in a purely scientific matter. The police president reasserted his belief in the purpose of the meeting to serve certain political ends and refused to lift the ban against foreigners. As a result, the Congress was not held at all. So closes for the moment another phase of *the* question of Central and Eastern Europe, the Slavish and German. It crops up now in every relation between the two people, political, linguistic, social, commercial, and has even invaded science. The new-born race self-consciousness of the Slavs, which is drawing together these people in Central Europe, makes a most interesting phase of later ethnology, elements that were supposed to be (that have been in the past) infinitely repellent, have under the subtle magic of this new force somehow changed what was considered their inherent polarity and exhibited at-

traction instead of repulsion. The Poles and the Russians were supposed to be inveterates irreconcilable enemies. The Czechs were a despised branch of the family, for whom the other two had no consideration, though the keynote of their relations with them would undoubtedly have been opposition had they considered it worth the while to have any relation. Now these are the three who sit down at the council board together to discuss German decadence and Slavish advance.

Meantime, if what seems a natural force is to be retarded in its progress, this immediate interference of the German police at the first suspicion of the introduction of the Slav agitation into the German empire will have its effect. Natural forces have, however, a way of surmounting artificial barriers that is not always complimentary to self-conscious human acuity. Mrs. Partington was once quoted in the British Parliament as having been an excellent hand with a mop, but when the Atlantic Ocean kept coming in under the door-sill her cunning with that very useful remover of nuisances did not avail much. One is tempted to wonder whether even a paternal German government, in which imperialism is the watchword, will be more effective against this natural force that has been gathering strength in the obscurity of centuries and now presents one of the most interesting natural phenomena at work in our own time that history has ever presented.

Dr. Michaelis, Professor Von Leyden's assistant, who has been able to demonstrate the gonococcus several times on the heart valves in gonorrheal endocarditis, found some time ago tubercle bacilli in cardiac vegetations in certain cases of tuberculosis, either acute or with the acute exacerbations indicating that at some time the bacillus was in the circulation. The question arose whether the bacilli were only coincidently present in the vegetations, as a consequence of their presence in the blood current at a moment when their imprisonment was favored by some concomitant diseased condition of the valves, or whether they really played an etiological rôle in the production of the vegetations.

Working under Dr. Michaelis' direction in Professor Von Leyden's laboratory, Dr. Blum of San Francisco has been able to demonstrate, experimentally, that the tubercle bacilli are an active factor in the production of the valvular vegetations, and Dr. Michaelis reported the observations and demonstrated the specimens at the last meeting of the Verein für Innere Medicin. The aortic valves in rabbits were injured by the insertion of an instrument through the carotid and then tubercle bacilli were injected into the circulation. When the animals were killed some weeks later, in certain cases vegetations were found on the valves at the injured parts, in which a pure culture of tubercle bacilli could be demonstrated. The experiments are taken to prove that valvular lesions may be the result solely of tuberculous infection, a question which has hitherto been in dispute.

An interesting case of gigantism in a child of four was presented before the Association of Attendant and Resident Physicians of the Charité Hospital (Charité Arzte), Berlin, at a recent meeting. The child has the stature and the weight of a child of seven or eight years. Between the first and second year, after a normal development, there occurred a series of epileptiform seizures. After a time these remitted and the child became seemingly healthy. Then about a year ago it became irritable, afterward subsiding into a state of lethargy for a time. Since then the abnormal development has taken place. This affected all parts about equally so that the child looks symmetrically developed but is about twice its normal size. The penis and scrotum is particularly developed and constitute the only appearance there is of acromegaly. There are symptoms present of a tumor at the base of the brain, choked disk, eye muscles palsied, etc., and it is concluded that there is a neoplasm in the hypophysis. The question that came up for discussion was whether this should be considered a preliminary stage of acromegaly. Many reports of cases of gigantism in children shows that typical acromegaly has developed after puberty, and it is generally considered that the two are analogous processes at least. Professor Heubner and Professor Gerhardt were undecided in the matter.

SOCIETY PROCEEDINGS.

BRITISH MEDICAL ASSOCIATION.

Sixty-sixth Annual Meeting, Held at Edinburgh, July 26, 27, 28, and 29, 1898.

(Specially reported for the MEDICAL NEWS.)

SECTION ON OBSTETRICS AND DISEASES OF WOMEN.

(Continued from page 223.)

THIRD DAY—JULY 29TH.

DR. R. C. BUIST of Dunblane read a paper, reporting

TWO SYMPHYSIOTOMIES.

In the first case the woman's first child had died in labor; the second labor was a difficult forceps case and the child died; in her third pregnancy labor was induced at 7½ months and the child lived sixteen hours; in her fourth pregnancy the author adopted Franck's method of permanently enlarging the pelvis. Labor set in prematurely a week after the operation, and after twelve hours she was delivered with forceps. The child only lived about two weeks, but the pelvis permanently healed with greatly increased dimensions.

The second patient was not seen until she had been in labor two full days. The os was dilated to about the size of the palm, but the head was fixed at the brim of the pelvis. Under chloroform, symphysiotomy was performed by the subcutaneous method, the forceps applied, and the child easily delivered. The child weighed 8½ pounds, and is now alive and well. In less than three months the mother was at work in a jute mill. The symphysis is still freely movable.

DR. AMAND ROUTH of London read a paper on

TREATMENT OF CYSTOCELE.

Cystocele may be primary or secondary; secondary in procidentia and prolapse of the uterus, and primary when, in labor, the anterior vaginal wall is stretched and the bladder is not drawn up out of the way, and more com-

monly when the membranes have ruptured before the cervix is fully dilated. Treatment by pessaries is usually first tried, but if the cystocele is primary they do little good. The writer then spoke of an operation which he had found useful; the cervix is drawn down and a transverse incision made; then the bladder is stripped off from the front of the uterus and anterior vaginal wall; a vertical incision is made toward the urethra, and the side flaps are allowed to overlap; then the redundant tissue is cut off, some from in front of the transverse incision and some from the sides; two points from the sides are brought down by sutures and sutures passed in both directions so that the vaginal wall is shortened laterally and anteroposteriorly.

PROFESSOR SANGER of Leipizg said that he makes a median incision and then cuts off the side flaps and closes with a continuous suture. He does not think that an anterior operation is enough, for there is always a tear in the perineum which must be repaired.

DR. SMYLY of Dublin read a paper on

EXTIRPATION OF MYOMATOUS UTERI BY THE VAGINA.

He mentioned some of the indications for operation on myomata, such as pressure upon some organ, especially the bladder or uterus; rapid enlargement, especially in a young woman; suppuration, sloughing, edema, pain, hemorrhage, and cases in which the woman is incapacitated from earning her living. He gave the following reasons why the vaginal method is preferable to the abdominal in suitable cases: the mortality is less, shock is less marked, convalescence is more rapid, and there is no abdominal wound. He had performed the operation seventeen times with only one death, and in that case the myoma had suppurated, but the condition was not suspected until the growth was cut into and the putrid matter escaped; the patient died of septicemia. He used Dr. Doyen's method of morcellation, and thought it a good operation for that class of cases in which the adnexa were to be removed. The nervous symptoms of the patient are less severe after removal of the uterus and ovaries than after removal of the ovaries alone.

DR. J. FARRER of Gainsborough read a paper on

A NEW AND SPEEDY METHOD OF DILATING A RIGID OS IN PARTURITION.

He told how he had discovered the method while attending a primipara. For forty-eight hours the os had been thin, rigid, and unyielding; he had attempted to dilate it with his fingers and with a mechanical dilator, with and without chloroform, but had failed. At last he decided to incise the os, and, the patient being too much exhausted to stand chloroform, he applied a ten-per-cent. solution of cocain to the os as a local anesthetic; at the end of four minutes he found the os fully dilated and as soft and flexible as a rubber band. Thinking that the cocain was the cause of the relaxation, he had tried it several times since, always with the same results.

DR. JARDINE of Glasgow said that he had tried this method several times, using 2-grain cocain suppositories, but had always failed.

DR. A. DONALD then read a paper on

VAGINAL SECTION.

He said he employed the term "vaginal section" to imply the opening of the abdominal cavity, or gaining access to the organs therein, through the vagina. During the last six years he had performed this operation fifty-nine times for exploratory purposes, treatment of pelvic abscess, ectopic pregnancy, and myomectomy and ovariotomy. In thirty cases the incision had been anterior and in twenty-nine it had been posterior. The points in its favor are: absence of shock, less risk of septic peritonitis, less likelihood of getting pus into the peritoneal cavity, and a quicker recovery and better convalescence. In cases in which the uterus is fixed by adhesions and there is a long, narrow vagina it is better not to attempt vaginal section. His mortality had been six per cent., and half of these subjects would have died of the disease in a short time.

MR. C. MARTIN of Birmingham read a paper on

CONSERVATIVE SURGERY OF THE OVARY.

He said that the physiologic value of the ovaries could be best realized by noting the effect on patients in whom both glands have been removed. The patient becomes sterile, menstruation ceases, atrophy of the vulva, vagina, and uterus takes place, nervous symptoms appear, and there is a tendency to obesity. If only a portion of the gland is left behind the nervous symptoms do not appear, and for this reason an attempt should be made to save a part of one ovary if possible. An exception is in the case of sarcoma of one ovary; here both organs should be removed because the disease is likely to recur in the other ovary. He spoke of the value of ignipuncture in cystic disease of the ovary and chronic ovaritis; he had tried it in fourteen cases, with seven certain cures, and in one case the woman, who had been sterile before, became pregnant three months afterward.

DR. A. LAPTHORN SMITH of Montreal read a paper on

THE BEST OPERATION FOR THE CURE OF DISPLACEMENTS OF THE UTERUS.

The conclusions to which the author had come were based, first, upon his own personal experience of 111 ventrofixations, and 89 Alexander operations; second, upon the experience of forty first-class operators, Fellows of the American Gynecological Society, who had among them performed about 2500 ventrofixations or suspensions of the uterus, and third, upon his recent visit to the leading gynecologists of Europe, whom he had seen performing vaginal fixation. His own experience with Alexander's operation had been all that could be desired—no difficulty in finding the ligaments, no hernia, only one relapse, and no trouble in subsequent labors. With ventrofixation the cases had been much more serious because he had only performed it when there were diseased tubes causing fixation of the uterus. One patient had died, one had relapsed, one had a hernia, two had miscarried, and three had had normal labor; in seven cases a buried stitch had required removal subsequently. Out of the cases reported by other operators, above mentioned, there had been 146 pregnancies, in 36 of which there had been pain, miscarriage, or difficult labor, requiring obstetric

operations, and two or three women had died. Most of these operators had abandoned fixation, and now perform suspension by stitching the round ligaments to the abdominal wall. As a result, however, of what he had recently seen on the Continent, he would now abandon Alexander's operation, ventrofixation, and ventrosuspension, and treat all these patients in future by vaginal shortening of the round ligaments, which had the following advantages: (1) It is very easy; (2) it can be done very quickly; (3) it should have no mortality; (4) it is free from subsequent pain; (5) it will do as well for cases of retroversion with fixation as for those in which the uterus is freely movable; (6) it does not interfere at all with subsequent labors or pregnancies; (7) it does not leave any painful wound or unsightly scar, women being more willing to have an operation done in the vagina than on the abdomen.

Section in Medicine.

First Day—July 27th.

Dr. George W. Balfour, President of the Section, delivered the opening address, his subject being

personal experience of an almost forgotten episode in medical history.

He said, in part: "There are not many now living who remember the time when blood-letting was the panacea for almost every ailment; when patients could no longer be safely bled, they were leeched or cupped. There must be, however, survivors of the time when it was taught that in complicated pneumonia much confidence was to be placed in blood-letting, and that the only essential factor of the prognosis was the day of the disease on which the treatment was commenced. This treatment sometimes failed when delayed more than two or three days from the commencement of the disease. Such were the earliest lessons in medicine that I received, lessons which were daily exemplified in the wards of the old Royal Infirmary.

"Within a year of my graduation, I made my way to Vienna with the view of studying homeopathy. At first, I occupied my time in improving my knowledge of percussion and auscultation under the world-renowned Skoda. You may imagine my astonishment when I found that in his wards the severest cases of pneumonia were treated with poultices and regulated doses of extractum graminis (hay tea), and nothing else, unless much pain was complained of, when a few grains of Dover's powder were superadded. It was truly astonishing to behold in bewildering amazement a pneumonia melting away under the magic influence of a decilliionth of a grain of phosphosus, but it was indeed a *reductio ad absurdum* to find this magic influence emulated by the virtures of hay tea and to be told by Skoda that pneumonia was a disease that tended not to dissolution but to resolution.

"Hahnemann raised to a paramount position one of the many theories advanced by Hippocrates, and enunciated the doctrine that by it alone could disease not only be cured *tuto, cito, et jucunde*, but silently and at once extinguished. In this respect homeopathy was the Eighteenth-Century analogue of our returning antitoxin treatment. Fortunately, the excellent results obtained by Skoda with the hay tea sufficed to dispel the cloud of mysticism evolved by Hahnemann and his school, while the success of Dietl in the same class of cases in another hospital with simply *aqua colorata* showed that there was no specific even in hay tea, and confirmed the conclusion that pneumonia tended not to dissolution but to resolution, and that the large blood-lettings thought necessary for its treatment were to say the least, uncalled for.

"Upon my return from Vienna I read to the Medico-Chirurgical Society of Edinburgh a report of what I had observed in the wards of Skoda, with the account of 392 cases of pneumonia treated on what might be termed expectant principles. I pointed out that the Vienna cases were certainly not less sthenic than those in Edinburgh; and they had the disadvantage of being daily auscultated, discussed, percussed, and lectured over, and that they had not the advantage of having been freely bled, yet their mortality was only 13.7 per cent. My words fell on deaf ears, and the conclusion arrived at may be very well summed up in the words of one of the ablest physicians of the day—Dr. John Gairdner: 'Nothing was better established than the good effect of blood-letting in Edinburgh, whatever might be the case in Vienna.'

"After this, we had a war of opinions in regard to whether the difference in results was due to the better knowledge of the natural history of the disease, and of its pathology, and to the actual change in the type of the disease, which no longer required the same heroic remedies.

"We are now on the threshold of new discoveries and of quite a new pathology, which seem destined to become of the highest importance for the well being of mankind. It is well, however, in the light of the past, to remember that diseases may be recovered from under many different forms of treatment. The practical certainties of our art in all ages have been sufficient for the welfare of mankind. We must be careful never to subject ourselves to any vague ideas of what may possibly be curative, but hold to that which is the paramount object of our art—the relief of suffering."

Dr. James Grant remarked that in Canada venesection, while rarely practised is, nevertheless, still in use.

Dr. Alexander James opened the discussion upon

clinical varieties of hepatic cirrhosis,

considering both the clinical and the pathological aspects of the disease, laying particular stress upon the latter. The point of chief interest brought out by the discussion was the prevalent opinion that cirrhosis of the liver is not to be laid so much as formerly to the door of alcoholism and dietary indiscretion. Dr. Allison maintained that while alcohol predisposed, another factor in causation must be found. Dr. Osler said that sight should not be lost of certain forms due to bacterial invasion, and he read in this connection a paper by Dr. Adami of Montreal upon the bacteriology of progressive cirrhosis. He later exhibited slides illustrating the remarks made. Professor Rosenstein of Leyden gave it as his opinion that in Holland, at least, so much stress as in the past should

not be attached to alcohol as a positive factor. Professor Gerhardt referred to the occasional occurrence of phosphorus poisoning in this connection, and Dr. Drummond and others called attention to cirrhosis occurring with enlarged spleen and pseudoleukemia.

SECTION IN SURGERY.

FIRST DAY—JULY 27TH.

The proceedings of the Section in Surgery were opened by an address upon

MODERN OPERATING-THEATERS,

by the President of the Section, DR. JOHN DUNCAN of Edinburgh. He prefaced the subject of his remarks by a brief description of the advance that has been made in medical teaching in Edinburgh during the past forty years, laying special stress upon the examination system so-called. Formerly examinations were meant to eliminate the useless; now, they dominate the teaching. Among the examiners, the doctrine is inculcated that a candidate for a medical diploma is not a finished practitioner familiar with every side light and detail, but the chief business of the teacher is to make men think, and of the examiner, to find out how far that has been successful. Clinical teaching has come to the fore, and what is practicable receives the most attention. Laboratories and museums are now attached to every department in our new university buildings and in the associated schools. The antiseptic system of surgery has opened so wide a field to the young surgeon and the clinical material has become so abundant that arrangements are being made whereby a surgical theater shall be placed at the disposal of each set of wards. The glorification of mere manual dexterity in surgical work has greatly diminished. If one knows what to do there is little difficulty in doing it. A surgical operation, therefore, has come to be regarded as an incident in a case, and the operating-theater has become an appendage to the wards.

The speaker said he was not of those who have great faith in surgical upholstery. The expense of transforming cleanly and well ventilated theaters into structures of tiles and glass is unnecessary. It may be said that it is all in the right direction, but some consideration should be given to the desirability of expending the money of a charity in costly reconstruction. Smooth and impermeable materials are not necessarily those which are most easily rendered aseptic. A good wooden floor can be made antiseptic and as satisfactory as its modern substitute. The emanations from spectators, from the operator and his assistants are more dangerous than those from the walls and floor, and the time may come when the patient, surgeons, and assistants, having been rendered from top to toe cutaneously aseptic, will cover each orifice of the body with an antiseptic mask, and, clothing themselves in a raiment scientifically pure, shall pass into an atmosphere freed from germs by the air-pump and by heat. Our ingenuity need not be directed to the condition of the air which may be trusted to efficient ventilation and the germicidal action of the tissues. It would be unfortunate if in cases of antiseptic failure the surgeons should be led to seek in unfavorable surroundings a loop-hole from escape of self-blame, or to believe that he cannot operate with perfect success save in a glass case or a crystal palace. The skin, the instruments, and the apparatus are the true objects of our care.

The use of electricity in surgery is undoubtedly extending. In the matter of lighting, there are surgical operations and investigations which cannot be satisfactorily accomplished without it. The surgical value of rendering the body diaphanous by the Röntgen-rays has been amply proved. The electric cautery has this advantage over others that it can be placed in position before being heated. The speaker had preached in season and out of season the surgical uses of electrolysis, but he felt assured that even now it does not meet with the appreciation it deserves. In cirsoid aneurism no other treatment can be compared with it for a moment. In nevus, especially, when it is desirable to avoid a scar, there is nothing so sure and so safe. It does excellently in some forms of agioma; it gives good results in goiter; it is an efficient depilatory.

PROFESSOR BENNETT of Dublin in opening the discussion upon

INJURIES OF THE ELBOW-JOINT,

called attention to the ease with which an incomplete dislocation of the ulna and radius backward might escape detection, and to the fact that in compound separation of the lower epiphysis of the humerus the elbow-joint is not opened because the lower end of the diaphysis is torn out of its periosteum, and thus the ligaments attached to the other end of the humerus are not ruptured. He illustrated the chief point in his paper by a diagram that in fractures at this point it is the lower end of the humerus which is injured, and not the process of the ulna. It is difficult to give a clear idea of this, but it may be said that the broken pieces slip from their places and prevent a proper reduction of the fracture. The removal of a part of the ulnar process is, therefore, not indicated, and attention should be directed to the humerus following whatever method may be indicated by the use of the X-rays.

DR. ROBERTS of Philadelphia read the next communication, which gave rise to much diversified criticism. He advocated, in fractures of the lower end of the humerus, fastening the fragments together with metal nails in cases in which there was any difficulty in keeping them in good position, and he further advised the adoption of the extended position in putting up the limb in splints after any injury of the joint. Professor Chiene expressed himself in favor of the flexed position except in cases of separation of the olecranon, or when the patient was kept in a recumbent position. Mr. Keetley held an opposite view to Professor Bennett's as to the reason why the elbow-joint was not attacked by septic arthritis in cases of compound separation of the epiphysis at the lower end of the humerus, and said that the elbow-joint is not usually opened.

MR. JORDAN LLOYD of Birmingham stated that the dislocation of the elbow is a rare injury, and that sep-

aration of the lower end of the humerus is much more common; an anesthetic is necessary in order to make a satisfactory diagnosis in many of the cases. Force applied to the olecranon may easily cause fracture of the humerus. Opinions differ as to the best position, but few men are ready to accept the procedure advocated by Dr. Roberts—nailing together the fragments.

In a discussion following the reading by MR. BUSH of Bristol of a paper reporting two cases of gastric ulcer treated by sponging out the peritoneal cavity and suturing the ulcer, the general opinion was advanced by other speakers that thorough irrigation is the only method worthy of recommendation in this connection.

In the second day's session of the Surgical Section, SIR WILLIAM STOKES of Dublin spoke upon the operative treatment of exophthalmic goiter, in the course of which he stated that in these operations the thyroid gland requires most careful handling in order to prevent rupture of the follicles and consequent absorption of the secretion into the general circulation with acute systemic poisoning. The striking point in the method advocated by him is treatment by the open method, the gland substance being allowed thus to dessicate in the process of healing, while a sufficient portion remain to carry on its function. Professor Kocher of Berne, an expert in this department of surgery, gave a qualified sanction to this method.

(To be continued.)

REVIEWS.

BRIEF ESSAYS ON ORTHOPEDIC SURGERY. Edited by NEWTON M. SHAFFER, M.D., Surgeon-in Chief to the New York Orthopedic Dispensary and Hospital, etc. New York: D. Appleton & Co., 1898.

THIS is a collection of six articles attempting to define the scope of orthopedic surgery, the author taking the ultra-conservative position of subordinating all operative interference to most prolonged trials of the various mechanico-therapeutic devices at our disposal. Such a limitation of this special department of surgery has been rightly contested. The orthopedist would sacrifice none of his individuality of being in a class by himself if he judiciously and impartially applies the principles of operative surgery together with mechanico-therapeutics.

PROCEEDINGS OF THE SEVENTH ANNUAL MEETING OF THE ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES. Edited by JAMES E. PILCHER, M.D., Captain in the Medical Department of the United States Army. Columbus, O.: Berlin Printing Co.

THIS report contains a number of articles which are of almost as much interest to the civilian surgeon as to his "brother in arms." The work of the Association was divided into subject-groups, which will indicate the scope of its influence and aims. Among these groups we note the subjects, "Naval Hygiene," "Military Personal Identification," and "Clothing and Accoutrements." Under the latter heading we must make special mention of a very able and interesting demonstration of "Accoutrements for the Infantry Soldier," by Deputy Surgeon-General W. S. Oliver, British Army Medical Department. There are valuable contributions on military physical training, transportation of the disabled, and sanitary work in the National Guard. The volume is a model of press work, and bears the seal of the Association in gold on its simple green cover.

MANUAL OF OPERATIVE SURGERY. Edited by H. J. WARING, M.S., M.B., B.S.C., F.R.C.S., Demonstrator of Operative Surgery and Surgical Registrar, St. Bartholomew's Hospital, London, etc. New York: The MacMillan Co., 1898.

CONTRARY to the plan of other manuals on operative surgery, the author at once introduces the student to the more formidable operations on the gastro-intestinal tract, thereafter passing on to the consideration of minor operations. Such methods may be obligatory in teaching operative surgery on the cadaver when the anatomical material is limited, but a text-book is the place for a logical consideration of surgical technics and the order should be from the simple to the complex.

The introduction deals briefly with the preliminary steps to operations. The list of operations is very complete and the descriptions are concise and are amply illustrated. Preceding each operation are the indications calling for its performance.

In the description of gastro-enterostomy it is not stated whether the anterior (Wœlffler) or the posterior (Von Hacker) method is to be followed. Throughout the description of operations on the pelvic viscera the invaluable assistance rendered by the Trendelenburg position is not brought forth. A description of internal urethrotomy is lacking. A little more attention might have been given to tenorrhaphy. We deprecate the use of so formidable an instrument as Belocq's canula in tamponing the posterior nares: a catheter will answer the purpose better.

The purpose of the reviewer in noting these slight shortcomings is only to emphasize the superior merit of the remainder of the book. It is complete, thorough, and as ample for the practitioner as for the student. It abounds in valuable hints and suggestions and we feel certain that it will prove most acceptable in a field which is by no means over-crowded. In its 644 pages it contains 420 illustrations which serve to elucidate the text admirably. The bookmaking is excellent.

STREET CLEANING AND THE DISPOSAL OF A CITY'S WASTES: METHODS AND RESULTS AND THE EFFECT UPON PUBLIC HEALTH, PUBLIC MORALS, AND MUNICIPAL PROSPERITY. By GEO. E. WARING, JR., Commissioner of Street Cleaning in the City of New York. New York: Doubleday & McClure Co., 1898.

THE author of this book of 223 pages has done valuable service to the cause of municipal sanitation. The style of the book is straightforward and direct. It contains a brief but comprehensive account of the history, organization, and work of the Street Cleaning Department

of the City of New York. He discusses the difficulties surrounding the position of Commissioner of Street Cleaning and presents clearly and strongly the political toils in which every member of the force finds himself involved when politics is the controlling power. The latter half of the book presents a most interesting and instructive account of street cleaning in the large cities of Europe and Great Britain. Members of Boards of Health will find in this volume many valuable hints and suggestions connected with the sanitation of municipalities. Of especial interest is the detailed account of the most approved method of the disposition of city garbage.

NOTES ON MILITARY HYGIENE. For Officers of the Line. A Syllabus of Lectures formerly delivered at the U. S. Infantry and Cavalry School. By ALFRED A. WOODHULL, LL.D. (Princ.), Lieut.-Colonel, Medical Department United States Army. New York: John Wiley & Sons, 1898.

SPECIAL interest attaches to the subject of military medicine and its many subdivisions at the present time. The little volume under consideration, originally prepared for the use of student officers, has been amplified and improved, the text being changed to correspond with the present army regulations, and with the progress of sanitary science. An essay has been added upon the care of troops in the field, especially in warm climates, which contains a number of particularly timely suggestions.

Under the introductory heading of "Selection of Soldiers," we are given a precise but brief and complete synopsis of the requirements of the recruiting office. Age, proportion of height and weight, chest capacity, effect of drill, and incapacitating deformities are taken up in turn. The rule given for physiologic relation between height and weight to be used as the standard of recruits is: "To and including five feet seven inches, two pounds to the inch, and add seven pounds for every inch above five feet seven inches." This does not appear to be in accord with the rule based upon more recent statistics than those of the War of the Rebellion, as, according to it, we find the maximum height six feet three inches, corresponding to a weight of but 190 pounds, which is certainly below the average. The chapters on military food and clothing, on habitations, and on camp and marches are particularly well written. Altogether this little guide is a valuable contribution to medical literature, and, while it is intended primarily for the use of line officers, cannot fail to be of service to members of the medical staff as well.

ATLAS AND ABSTRACT OF THE DISEASES OF THE LARYNX. By Dr. D. GRÜNWALD, of Munich. Authorized translation from the German. Edited by CHARLES P. GRAYSON, M.D., Lecturer on Laryngology and Rhinology in the University of Pennsylvania. Philadelphia: W. B. Saunders, 1898.

IN the preparation of this laryngologic atlas, the same plan is pursued that was noted in the earlier volume of this series on diseases of the eye. The pictures presented are, at first, variations in normal cases, then alterations of the epiglottis, diseases of the vocal cords, followed by subcordal affections. The different diseases of the ventricular bands are well shown, while seven plates are devoted to pathologic conditions affecting the posterior wall. Diffuse alterations and paralyses are well illustrated, besides which there are numerous microscopic drawings showing the minute structure of the affected tissues. Each picture is accompanied by the data of the case, the previous history of the disease, and the examination of contiguous, as well as of more distant, organs. In this way the physician who has few opportunities of inspecting the larynx in large numbers of cases, and yet wishes to be able to recognize the more important affections, receives valuable training. The method of instruction followed is a clever combination of the didactic and the clinical; the cases are well chosen and the diagnostic analyses concise and accurate.

THERAPEUTIC HINTS.

For Toothache.—

℞ Cocain hydrochlorat. . . . gr. ii
Camphoræ } aa . . gr. lxxx.
Chloralis hydrat. }

Mix, add a few drops of water and triturate until the mixture becomes a clear homogeneous liquid.

Sig. External use. Apply on a bit of absorbent cotton introduced into the dental cavity, renewing the application until the pain ceases.

Benzoate of Mercury in Syphilis.—

℞ Hydrargyri benzoat. . . . gr. iv
Sodii chloridi } aa . . gr. i
Cocain hydrochlorat. }
Aq. dest. . . . . ʒ i.

M. Sig. Fifteen to thirty minims administered hypodermically every day for one month.—*Gancher.*

Nutrient Enema in Cancer of the Stomach.—In case of obliteration of the cardiac or pyloric orifice the following is recommended for rectal alimentation:

℞ Yolk of eggs . . . . No. 2
Dried pepton . . . . ʒ i–ʒ v
Wine . . . . ℥ iv
Bouillon . . . . ʒ viii.

M. Sig. For injection.

For Bronchiectasis.—

℞ Terpinol . . . . *m.* xxx
Ol. olivæ . . . . ʒ iss.

M. Div. in caps. No. XX. Sig. One capsule every two hours.—*Rabow.*

For Pertussis.—

℞ Hydrochlorate of phenocol . gr. xviii–ʒ iss.

M. Div. in chart No. XII. Sig. One powder three times a day.—*Kobert.*

For the Diarrhea of Chlorosis.—

℞ Zincohemol . . . . gr. lxxx
Pulvis aromat. . . . ʒ ii.

M. Div. in chart No. X. Sig. One powder three times a day.—*Limousin.*

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXXIII. NEW YORK, SATURDAY, AUGUST 27, 1898. NO. 9.

ORIGINAL ARTICLES.

THE MORPHIN HABIT; ITS TREATMENT, AND THE POSSIBILITY OF ITS CURE.

BY JOHN W. ROBERTSON, M.D.,
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THE undue use of morphin, either to relieve pain or for the purpose of re-establishing normal tone to the nervous system, has become so common and its abuse is so closely connected with the same predisposing causes which underlie all neuroses that an inquiry into its symptomatology and treatment seems pertinent. Even of more interest is the study of its causation and the establishment of the fact that, in the great majority of cases, it is as much a result of nervous heredity as is neurasthenia, insanity, epilepsy, or dipsomania. By this is meant that morphomania belongs to the group of functional neuroses which has as a basis the nervous diathesis, and that, when a person possessing this constitution even for a few times experiences the pleasing exhilaration that opium brings he not only becomes addicted to the drug but to such an extent its slave that he will sacrifice all in life that should restrain and stand between him and his appetite, and will barter honor, truth, and all social considerations for the relief of the craving so soon established. As a rule the morphomaniac receives but little sympathy, and while the world readily excuses those persons who become addicted to the habit because of pain, it harshly judges the equally unfortunate who have hereditary compulsion as an excuse.

Opium smoking, so prevalent in China, is to some extent practised in California, for every Chinatown in the State is a focus from which the infection spreads. As a rule, however, it is only the vicious and criminal who resort to these dens, and even this class soon discards the filthy and nauseous surroundings for the more seductive and less expensive needle. Opiophagia, or the eating of opium, while chiefly practised in Oriental countries, was until recently a most common vice in both Great Britain and the United States. Of all forms it is the easiest to conceal and can be practised for a certain time without detection.

The invention of the hypodermic needle and the discovery of cocain have added greatly to the dangers of morphin. It is possible either to smoke or eat opium for a life-time and still not be absolutely unfitted for social life, but the hypodermic use of morphin, combined as it usually is with cocain, soon brings physical and mental disaster, and in a little while the subject becomes a burden either on his family or the public charities.

The symptoms characterizing the morphin habit all refer to an unstable nervous state of either the body or the mind. The bodily symptoms are emaciation, weakness, ataxia, and paresis of the sphincters, which Levinstein and other writers have included under the name of morphinism, in contradistinction to morphinomania, under which term they include loss of will power, moral insanity, imbecility, and other mental perversions. During the first few months the use of the drug apparently gives mental strength and bodily vigor. The victim is exhilarated, moves with alacrity, and life is full of zest hitherto unknown. Neurotic longings and physical infirmities are forgotten, and for the first time, possibly, the patient experiences the sensation of being normal. He is certain of his own mastery, and the honeymoon following the first knowledge of the drug is bliss unspeakable. Not that visions such as De Quincey has familiarized us with are of usual occurrence, or that delusions and hallucinations are generally present; these may come with overdoses of the drug, but in the early stages, at least, they are temporary. The subject, probably beginning with a dose of ¼ of a grain occasionally, soon adopts it as a daily habit, and rapidly increases it to four or five grains, but later, finding that excessive doses are necessary to produce the old-time effect, he becomes alarmed and attempts to stop the drug. He reduces the morphin and possibly resorts to alcohol as a stimulant, but the fight is a losing one, and while he may temporarily reduce the amount he cannot throw aside the habit. Finally, thoroughly frightened, he seeks relief, probably takes some advertised cure and stoutly asserts his freedom, yet secretly indulges to a greater and greater extent, and despairing of any relief that morphin can bring, gradually adds cocain. When this stage is reached all hope of recovery unaided goes. He grows more infirm, more debased physically and morally, until he becomes a pariah among his fellow men. The desire for reform is a real one, and the victims are willing to sacrifice everything they hold dear in life—except morphin, could they only recover.

When fully under the power of morphin and the first pleasurable sensations have disappeared, the bowels become constipated, relieved by occasional diarrhea, the appetite is diminished, and the body emaciates. Frequently there is paresis of the sphincters, both rectal and vesical, and the heart becomes irritable, with a frequent and compressible pulse.

Venereal desire, at first increased by the drug, gradually lessens until mental masturbation takes the place of virile power. The skin becomes sallow, the eyes sunken, the face expressionless, and the gait ataxic. The mental symptoms are equally well-marked. The early effects of the drug are manifested in an increase of mental power and ability to carry out life's routine, but as seen as the habit becomes firmly established, and the victim after a few half-hearted attempts at abstinence finds his only course one of concealment and increase of the drug, he loses all interest in his work and his former pleasures and concentrates his whole energy on supplying himself with the opiate. He neglects business, no longer cares for social life, consorts with those similarly afflicted, and sinks into hopeless physical and mental decadence.

The effect of morphin on the mind, whether for the relief of pain or because of natural inclination, is destructive, and no one can become its victim without lowering of moral tone and loss of will power. A morphinomaniac may theorize as well as ever, but let a few hours elapse without the accustomed stimulant, and his unquiet nerves and uncontrollable longings causes him to jeopardize his soul for the drug, and there is no commandment in the decalogue he would not break in order to gain mental ease. No matter how honorable, upright, and conscientious a man's past life may have been let him become thoroughly addicted to morphin and I would not believe any statement he might make, either with reference to the use of the drug or any subject that concerned his habit. This extends further and clouds his moral perceptions in all relations of life. Authorities even go further than this and claim imbecility with organic brain changes. My experience has been large, and, while I cannot claim to speak authoritatively, yet my own observations do not confirm this statement. I do not deny occasional mental deficiency, yet while at Napa and later when temporarily in charge of the Home for Inebriates, many morphinomaniacs were committed as insane, yet not a single one exhibited either delusion or hallucination, and all were voluntarily committed for the purpose of cure. They showed no mental change on the day of their discharge (and they were all discharged "cured") differing from their condition on admission, yet, in a broader sense of the term they were all insane, that is, morally insane. They could not tell the truth, they were boasters, perhaps not so much in the belief that they would never relapse as in detailing the amount of drug taken. They ridiculed any possibility of relapse, yet many left these institutions and hardly let the day elapse before they were back in their old haunts.

Briefly summarized, morphin does not produce active insanity. Unlike alcohol, which, when long and excessively continued, produces chronic pathologic changes, morphin simply destroys the bloom of the mind, obtunds moral sensibility, and only when excessively used produces temporary mental aberration.

The treatment of these cases is a most difficult matter, and my main reason for dwelling on the nervous and mental state has been in order to show the difficulty of caring properly for these patients, while they are allowed the slightest liberty of person or freedom of judgment. There is certainly no royal road to cure that will in a night charm away desire. The only chance is in the slow and permanent upbuilding of the body and the protection of the patient against himself until his will power can reassert its old mastery.

To stop the drug is the first but not the most difficult step in treatment. Whether it be withdrawn quickly or gradually is a matter of indifference. Our books warn us against the sudden withdrawal of the drug because of probable heart failure. My experience does not bear this out. Certainly fifty patients, many of them *in extremis*, were admitted to Napa as insane, and it is fair to presume that when so radical a step was taken their condition was considered desperate. In every instance they presented the same general appearance—an emaciated body, a haggard face, pale, drawn and expressionless, eyes lusterless, and gait unsteady. They belonged to the dregs of society, and nearly all were graduates of the opium-joints in Chinatown. We could never determine on just what grounds they were committed, as none presented any mental symptoms except of moral degredation. The invariable practice was to shut them in a small room after bathing and supplying them with fresh clothing. This was necessary because they always came with their own clothing lined with morphin powers. Within twenty-four hours they were in a state of frenzy, begging and pleading for relief. Soon they became bedfast, vomited, and occasionally purged a viscid green-like bile peculiar to this disease. Nothing, either medicinally or dietetically, was done for their relief. The breakfast consisted of mush, with syrup and fat bacon, and their other meals were equally unappetiz-

ing. From the sixth to the eighth day they rallied sufficiently to walk around the ward, and in two weeks were usually able to go out and relish their food. Within a month their appetite was voracious. The return to physical health was rapid, and in from six weeks to two months each man was strong, robust, and apparently in full possession of both physical and mental health. They were loud, and possibly honest, in their assertions of reform, but in no single case, with one exception, do I know that the patient did abstain. While death may follow any mode of treatment, our experience demonstrated that sudden withdrawal was not dangerous, even though it seemed heartless.

In private practice the gradual reduction of the drug is the only procedure possible. The patient will not willingly endure the unnecessary suffering entailed by its sudden withdrawal. It is not a difficult matter to gradually reduce the drug from the daily five to ten grains to three-quarters of a grain within the first week, but it will probably take another week to reduce to one-quarter of a grain, and another week still to stop the drug altogether. It is not well to let the patient know when the drug is withdrawn as the physical influence is strong and the mind as well as the body demands treatment. Fortunately we have remedies which greatly assist us in so strengthening the nervous system that it can successfully stand the shock of withdrawal. Strychnin, hypodermically, and the red extract of cinchona internally, are excellent stimulants, and while they are not altogether as beneficial as they are in alcoholism yet they powerfully assist. In the lighter cases, especially in which no cocain has been used, the more serious evidences of shock, vomiting, rapid pulse, and physical prostration, may be slight, but when excessive and long-continued abuse has wrecked the system they will be pronounced and will continue more or less during the withdrawal; in fact, the rapidity of withdrawal must be regulated by the severity of these symptoms.

The strychnin solution should be of a strength of 1 to 200, and of this 10 minims can be used not less than twice, and possibly four or five times, during twenty-four hours. So specific is its action that, should the necessity be great, the system may stand one-half a grain without developing physiologic symptoms. With this, equal parts of red cinchona and fluid extract of cocoa should be prescribed, of which one dram may be taken two or four times daily. But with all this stimulation the system is occasionally rebellious, and the nervous system so unstable that bromid of potash must be added. The object in giving this is to overcome the nervous paroxysms, and when it is resorted to it should be pushed to narcotism. In other words, 90 to 120 grains should be given daily, and while bromism continues the morphin may be fully and finally withdrawn. Even from the beginning of treatment the morphin should never be given alone but always in connection with strychnin, and the patient must be kept in ignorance of the amount of drug taken and especially of its final discontinuance. These excessive doses of strychnin and cinchona are to be decreased as rapidly as possible, and by the end of the second week their administration can be reduced to two doses daily, during the third week to one, and discontinued in the second month, the strychnin to be again resorted to when symptoms demand it. The diet during the first two weeks should consist of milk to which as the appetite returns scraped steak may be added; later a generous diet may be allowed. By the end of six weeks the appetite is usually enormous and the body responds quickly.

By the end of the second month the patient presents every evidence of health, and it is now that the difficult portion of the treatment begins. Before this the services of a special nurse have been necessary, and the patient has welcomed his companionship, but with returning strength he resents surveillance; insists that his moral strength equals his physical, and too often persuades his friends that he is perfectly cured. But such cannot possibly be the case. Whether he stays under supervision or goes home the result is the same. By the end of the third month he becomes restless, irritable, and is the prey to all the old-time neurotic longings. He still asserts his freedom from desire, yet unless carefully watched will resort to coffee, alcohol, or other and stronger stimulants. It may again be necessary to resort to strychnin and bromid, although not necessary to produce bromism. Until several such attacks have been successfully combatted the patient remains in danger of backsliding. At my sanatorium six months is the shortest time for which I will receive such a patient, and the limit may be prolonged to twelve months. A shorter time invariably results in relapses, discouragement, and a return to hopeless slavery. For this reason the great majority of these patients never recover, but, when sufficient time has been successfully expended, and the neurotic taint is not too strong, re-establishment of the will power may proceed to such an extent as to overcome the lessening nervous outbreaks. When there is no hereditary taint, and the disease for which the morphin was originally prescribed can be cured, the prognosis is as hopeful as in cases of non-hereditary alcoholism, but the treatment, even in milder cases must be of at least six-months' duration. To discharge a patient at the end of the second month

because his physical system is restored is a waste of time and effort and can only succeed in very exceptional cases. When the disease has affected the mind to such an extent that organic weakness is present, no treatment can be of benefit. Time and protection of the patient against temptation until he is restored mentally as well as physically is the only rational method of treatment.

THE SYMPTOMS AND TREATMENT OF ZOSTER.

By ELLICE ALGER, M.D.,
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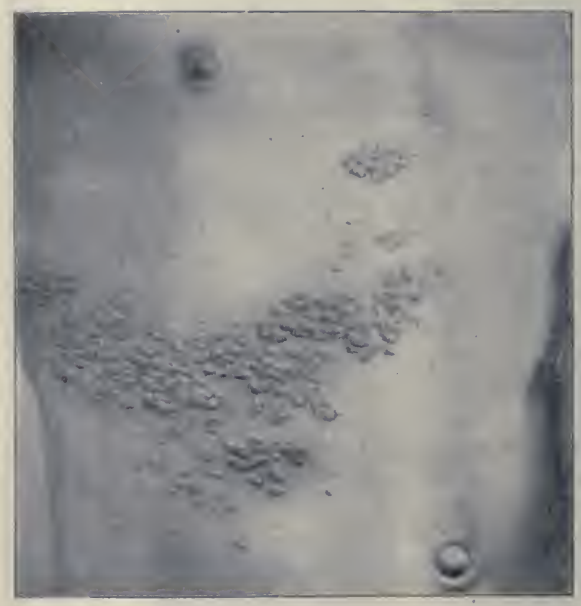
ZOSTER, or zona, as it is also called, is one of those diseases of the skin which is much more likely to be presented to the general practitioner for treatment than to the dermatologist. It is probably of much more frequent occurrence than statistics show because it is often unrecognized even by physicians of more than usual skill. The idea that every old woman recognizes it at once under the name of shingles is, I believe, a fallacy. So typical and unvarying, however, are the lesions that a man with a medical training rarely fails to recognize the affection after it has once been explained to him.

The outbreak of the disease is often preceded by several days of vague malaise, possibly by chills and some fever, and frequently by neuralgic pains of varying severity. Then come localized areas of superficial redness over the trunk of a nerve or nerves, which become slightly papular, and in a few hours present the typical appearance of the disease by developing vesicles, which are generally of small size. Each blister is surrounded by a narrow halo of inflammatory redness and the whole number of lesions are grouped together, often in patches, perfectly healthy skin intervening between the vesicles. Sometimes several small vesicles merge in one larger one so that the lesions are of varying size. Unless very large they show no tendency to break down spontaneously, but after a few days the contents, becoming more turbid, is absorbed or dries down as a brown crust which finally falls off without leaving a scar. Several crops of these vesicles may appear and undergo involution during an attack, each crop lasting from three to seven days, and often being preceded by an accession of neuralgic pains. When the disease appears at its commonest site over the intercostal nerves it is very unusual to find patches in the midline of the body, either before or behind, but they are especially prone to appear at the sides, while pressure over the nerve at its point of exit or in any part of its course is productive of very sharp pain. Very unusually there may be a bilateral appearance of the lesions almost meeting in front, an occurrence which, notwithstanding the popular superstition, has no particular significance.

The disease may occur at any time of life and in either sex. It is said to be more frequent in children than adults, but this probably depends largely on the practice of the observer. It has happened in my experience that by far the larger proportion of cases occur in adults past middle age, many of whom came not so much from any disquietude about the eruption, but for relief from the persistent neuralgia. Young adults and children, as a rule, suffer very little pain from this cause, and I can readily see that many would not call a physician at all unless the area involved was quite large.

The disease may occur on almost any part of



Zoster.

the body, the intercostal variety being by far the most common. However, I have never noticed that preference claimed by some authorities for the right side, nor can I see any anatomical basis for the belief. The next most common site is the region supplied by the lumbo-abdominal branches of the spinal cord, and less frequently still the genitocrural branches are involved. The fifth nerve may be affected, involving one side of the forehead and nose, and occasionally presenting a few vesicles on the eyeball itself. I remember one such case in which a permanent opacity was left in one eye by faulty treatment following a mistaken diagnosis. The lesions may appear on the limbs, generally above the elbow and knee, but not necessarily so. In a great many cases there is pronounced

anesthesia of the cutaneous areas over the affected nerve as compared with the opposite side. Sometimes there is a hyperesthesia instead, and either condition may persist for some time after the original lesions have disappeared. Atrophy and local paralysis are said to follow in some cases, but I do not remember having seen any such results personally.

The cause of the disease has been a matter of great dispute, but since about 1860 it has been associated with some doubtful nerve lesions. As patients very seldom die of zoster alone autopsies are not frequent, but in the cases on record lesions have been found in the ganglia on the posterior roots of the spinal nerves, but this is not necessarily a constant lesion for it is seen in tabes, in which disease these ganglia are presumably not affected. It has also been ascribed to a neuritis, and sections of nerves from affected areas substantiate this theory at times but not always. A few authors consider it the work of a germ and refer to what appear to be occasional epidemics. Others ridicule the germ theory. There is probably a certain amount of truth in all these theories for different cases may be differently caused, but until more is known about the microscopic study of nerve tissue the question cannot be settled definitely.

Zoster is more common in the spring and fall, as are all neuralgic troubles, and it has sometimes followed actual violence to a part. It was Crocker, I think, who first called attention to its occurrence in patients who had been subject to a prolonged arsenical treatment. I remember seeing a case of this sort in a child who had for sometime been taking Fowler's solution for the relief of some nervous trouble and presented a well-marked zoster of the chest and arm which subsided in a few days when the arsenic was discontinued.

In this case there was no neuralgia at all. Several of my cases occurred in aged patients who were anemic and debilitated, and in them the disease sometimes persisted a month or more. The pain was very severe and hard to control, depriving them of sleep and rest, and it was easy to see that in subjects of this class it might be a serious matter. In other cases I could find absolutely no cause for the outbreak as the health seemed perfect. In one it seemed to follow worry and hard study. A medical student before examination at the end of his second year developed quite a marked zoster over the left side of his chest, which persisted some time, and a year later just before graduating he developed a second attack, this time one foot being affected. This was rather unusual for very often one attack confers immunity from others.

The prognosis in almost all these cases is good, both as regards life and maintenance of function, but in old and cachectic subjects the duration is longer, the pain greater, and there is a tendency for the lesions to become infected and to ulcerate, leaving scars which we do not expect to occur in the more vigorous subjects.

In a young and healthy subject I do not think the disease requires any treatment except a local protective to prevent the blisters from breaking and becoming infected. The usual method is to cover them freely with a dusting powder and a layer of absorbent cotton and a bandage. Personally, I prefer to treat them as I do burns of the second degree. The blisters are simply laid open with a sterile instrument, no attempt being made to remove the contents, and then the whole region is sopped with the following:

Picric acid	ʒ iss
Citric acid	ʒ iii
Distilled water	℥ ii.

The picric acid converts the fluid in the vesicle into an antiseptic coagulum, the advantage of the citric acid being that it converts the alkaline vesicular fluid into an acid fluid which is much more readily acted upon by the picric acid. The application smarts a trifle at first, but is eventually soothing, and after it is dry it does not interfere with the local application for relief of the pain as do the various ointments and powders; it also hastens cornification and cuts short the crops of vesicles. It would be inadvisable to use it on the face because of the temporary but pronounced yellow stain.

For the relief of the pain there is nothing to be compared to galvanism, the positive pole being applied over the nerve-root and the negative moved slowly over the skin toward the distal extremity or about the patches. The strength of the current depends entirely upon the size of the electrodes. With the ordinary sponges, three to five milliamperes is about all the patient can bear, and his comfort is a good guide in the matter. With larger electrodes ten or twenty milliamperes cause no discomfort. The neuralgia will sometimes disappear for good in two or three minutes, sometimes only for a few hours after a good deal longer application. If the patient is sick in bed the portable faradic battery may be substituted, though in my experience it is not nearly as reliable. Of the drugs which control pain the number is very great, but I think phenacetin, in doses of 5 grains every three or four hours, is the most satisfactory, better than morphin, it seems to me, in pain of this character. However, it must be borne in mind that all the coal-tar products may be depressing to certain subjects, the old and cachectic for instance, and in these the general condition often calls for treatment aside from the local one.

PRACTICAL VERSUS THEORETICAL EXAMINATIONS.

By HENRY W. CATTELL, M.D.,
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SENIOR CORONER'S PHYSICIAN OF PHILADELPHIA.

It is to be deplored that our examinations for medical honors are too often managed in such a way as to require theoretical rather than practical knowledge. The writer has just taken part in conducting the microscopical portion of a competitive examination for resident physicians at the B—— Hospital. It was announced more than a month before the examinations that much importance would be attached to the microscopical diagnosis of the urine and blood. Two minutes were allowed for the inspection of each slide, and the power of the lenses was stated. Only the fine adjustment was permitted to be used, the microscopes being properly focussed for each applicant. The slides chosen contained carefully selected fields of the following objects: (1) a well-stained preparation of blood showing the inter-corpuscular pigmented form of malaria, such as appears in columns H and I of Manson's malarial chart; (2) the characteristic crystals of hemin, and (3) a centrifugated specimen of urine showing numerous pus-cells and granular and pus-casts.

One of the papers—a poor one, as the grade given was 10—was mislaid, so only the result of thirty out of the thirty-one papers handed in are appended in tabulated form. It will be seen that most of the men recognized the first specimen as blood, while the diagnosis of *plasmodium malariæ* was made in but nine cases. The hemin crystals were diagnosed correctly by only five, more than one-half the students (sixteen) considering them some form or other of bacteria, such as bacilli of tuberculosis, anthrax, typhoid fever, diphtheria, actinomycosis, or tetanus. Casts of some sort were recognized by fifteen; those who called them *staphylococcus*, *plasmodium malariæ*, *diplococci*, and tyrosin crystals attaining the lowest averages in the list.

The average grade, allowing 10 out of a possible 33⅓ for the diagnosis of blood in the case of the *plasmodium malariæ*, no matter whether the organism was found or not, was 33.22 out of a possible 100. The oral examinations in surgery, medicine, and therapeutics, conducted by the other members of the staff of the hospital, showed the men to be prepared to answer even the most difficult questions, and revealed a high degree of theoretical knowledge in those taking part therein. No doubt, had the men been called upon to describe the *plasmodium malariæ* or to give the method of preparing Teichmann's crystals, they would have done so with an accuracy and fluency that would have been most pleasing to the examiner.

In a similar examination of thirty nine applicants last year (*International Med. Mag.*, p. 319, May, 1897), a well-stained slide of leukemic blood was correctly diagnosed and described by only three, thirteen others diagnosing it as blood, but attributing its pathological features to pernicious anemia, *plasmodium malariæ*, *diplococci*, etc. The following diagnoses were also made: anthracotic lung, round-celled sarcoma, epithelial cells, hyalin casts, croupous pneumonia, and section of kidney. Cotton fibers in a sample of urine were diagnosed correctly by only six, others calling them linen thread (1), wool fibers (1), some foreign particle (3), unknown (3), muscle fibers (3), fibrin (1), mucin (2), nerve (2), elastic fibers and hair (1), elastic fibers (2), spirals from the sputum of an asthmatic (1), fibrous tissue (4), epithelial, granular, or hyalin casts (5), and cylindroids (6).

For five years I conducted the examinations in gross morbid anatomy at the University of Pennsylvania, and append a few of the answers received from students at the end of the third year of their medical education. Laminated clots from a ruptured aneurism were called a kidney affected with tubercle; a dermoid cyst of the ovary was said to be a carcinomatous mammary gland; appendicitis was mistaken for pyloric stricture, cancer of uterus, malignant growth of stomach, pearl disease, etc.; an intussusception was thought to be an imperforate rectum: parenchymatous nephritis was believed to be tuberculosis of the liver, and croupous pneumonia to be abscess of the liver. On first being told that a typhoid ulcer was a uterus with Fallopian tubes, and that an intussusception of the small intestine was an ovary, the questioner would be inclined to believe that he had not heard correctly; but after the following examination—an actual occurrence—he would think anything possible. A dermoid cyst, with hair, teeth, sebaceous matter, etc., was called diphtheritic membrane of the larynx; acute phthisis with cavities was diagnosed as croupous pneumonia; a large white kidney was pronounced a lardaceous uterus; a cystic kidney appeared to be miliary tuberculosis of the kidney or spleen, and appendicitis to be atrophy of the stomach. In a case of pyosalpinx in which the uterus and its adnexa had been removed at an autopsy held before the class, and the specimen described at a demonstration and an opportunity given twice for each student personally to inspect it, one of the men in the subsequent examination called it a carcinoma of the pyloric end of the stomach. The next is a good example of a too vivid imagination. A falx

No.	Microscope No. 1. Plasmodium Malariæ.	Microscope No. 2. Hemin Crystals.	Microscope No. 3. Pus-cells, Granular and Pus-casts.
1.	Red blood-corpuscles, eosinophiles.	Teased nerve-fibers.	Granular casts, molecular *débris*.
2.	Red blood-corpuscles, macrocytes, microcytes, leucocytes, hematozoa of Laveran.	Tubercle bacilli.	Leucocytes.
3.	Gigantoblasts, progressive pernicious anemia.	Anthrax bacillus.	Epithelial casts.
4.	Red blood-cell stained with eosin; whites, with methyl blue.	Hemin crystals.	Don't know.
5.	Eosinophiles and one basophile.	Uric-acid crystals.	Pus-cells.
6.	Eosinophiles, red corpuscles.	Typhoid bacilli.	
7.	Normal red blood-cells with one white cell.	Amorphous urates from urine, with urates of soda.	Staphylococcus pyogenes.
8.	Specimen of blood showing micro- and macrocytes and poikilocytes, normal casts, pernicious anemia.	Liver with bacteria.	Blood and blood-casts in urine.
9.	Red blood-corpuscles, white corpuscles (leucocytes).	Bacilli (club ends).	Plasmodium malariæ.
10.	Plasmodium malariæ, poikilocytes, red blood-cells, some free pigment, a few poikilocytes.	Uric acid.	Red blood-cells, granular casts, blood-casts, leucocytes.
11.	Reds, mostly normal, one microcyte, nucleated red, large mononuclear leucocyte.	Tubercle bacilli.	Pus-casts, if not blood-casts.
12.	Bright-red, round bodies—red blood-corpuscles, eosin stain; one white blood-corpuscle, hematoxylin stain, one red blood-corpuscle with an intercorpuscular body—either a nucleated red or a plasmodium.	Hemin crystals in a homogeneous mass of gelatinous material, probably destroyed blood-corpuscles boiled together.	Pus-cells in mucous material; also, some white blood-cells; three pus-casts, at the end of one [hyalin albuminoid material can be seen; some granules.
13.	Red blood-disks, lymphocytes, mononuclear plasmodium.	Anthrax.	Diplococcus.
14.	A large number of erythrocytes, a single gigantoblast, some poikilocytes, lymphocytes.	Some drumstick bacilli, other spindle shaped, some granules.	Epithelial cells, epithelial casts, urates.
15.	Fat droplets.	Klebs-Loeffler bacilli.	Numbers of granular cells embedded in a matrix of albuminoid material.
16.	Normal red blood-corpuscles, nucleated red, large mononuclear lymphocyte, poikilocytes.	Bacilli.	Pus-cells, pus-casts, fat drops.
17.	Microcytes, macrocytes, poikilocytes, normal red blood-corpuscles, leucocyte, malaria plasmodium.	Diphtheria bacillus.	Pus-cells, pus-casts, amorphous urates.
18.	Blood-corpuscles, R. B. C., macrocytes, corpuscles containing plasmodium malariæ, white blood-corpuscle, blood.	Triple phosphates, uric-acid crystals, urine.	Microcytes, macrocytes, macroblasts, blood.
19.	Blood specimen, plasmodium malariæ.	Urine specimen, pus-cells, numerous rod-shaped.	Pus.
20.	Numerous red blood-corpuscles, one white blood-corpuscle, plasmodium malariæ in center of field in interior of red blood-corpuscle.	A great many bacilli, some of which are drumstick in shape, suggesting tetanus bacilli.	Pus-corpuscles.
21.	Blood showing normal erythrocytes, a leucocyte containing neutrophilic granules.	Large flat epithelial cell, with urinary crystals overlying it.	Urinary sediment containing blood-disks, epithelial casts, dark granular casts, phosphatic crystals.
22.	Red blood-corpuscles in rouleaux.	Actinomycosis or anthrax. [?]	Urine, granular casts.
23.	Macro- and microcytosis, poikilocytosis (pernicious anemia), few large leucocytes in field.	Bacteria; from shape and size should judge they were anthrax bacilli.	Epithelial and comp. granular tube-casts, loose pus-cells, one group of tyrosin crystals.
24.	Small round cells, one with a few dark granules, another appears entirely blue, probably leucocytes, mostly mononuclear, the granules might be neutrophile granules.	Field full of small rod-like bodies, cannot determine their nature.	Small round cells with granules in them, some arranged in columns, might be mucus or pus-cells.
25.	Eosinophile round cell containing stained granules, white corpuscles with one nucleus; mononuclear leucocytes, multinuclear leucocytes.	Field containing probably tissue with many crystals, nature unknown.	Casts of various sizes and varying in contour, loose cells, probably blood-casts, with free blood-cells.
26.	Plasmodium malariæ.		Epithelial tube-casts.
27.	Large red cells, nucleated small, red nucleated reds, a polynuclear leucocyte, pernicious anemia.	Tetanus bacillus.	
28.	Poikilocyte, eosinophilic cell, reds decreased.		
29.	Fat droplets.		Granular casts, amorphous phosphates, epithelial cells.
30.	(1) Red blood-cells—a roundish, red, biconcave disk; (2) poikilocyte, irregular; (3) lymphocytes—small, dark-purple cells.	Tubercle bacilli in lower and center and right of field—small, thin, black rods.	Fatty casts—long, thin casts covered with fat globules.

cerebri containing a large osteophyte (internal ossifying pachymeningitis), with the longitudinal sinus and portions of the dura covering the upper parts of the cerebral hemispheres, was diagnosed, after a short study, as a bone which had been swallowed and became lodged in the esophagus!

Let us have more practical teaching, and require practical examinations for graduation in our medical schools, for choosing resident physicians in our hospitals, and for license from our medical boards to practise medicine in our several States.

THE PHYSIOLOGIC AND THERAPEUTIC ACTION OF EXTRACT OF THE MAMMARY GLAND.[1]

By JOHN B. SHOBER, M.D.,
OF PHILADELPHIA.

A study of the literature of the subject, and my own observation and experience, has led me to the following conclusions in regard to the physiologic and therapeutic action of the thyroid gland: (1) That when employed in the usual doses, *e.g.*, the equivalent of from 15 to 20 grains daily of the dessicated powder, it acts as a powerful and dangerous depressant to the heart and produces extreme nervous prostration. (2) That it should not be employed for any extended period of time in larger doses than the equivalent of 3 to 6 grains daily of the dessicated powder.

The gratifying results obtained by many observers from its employment in myxedema and psoriasis, and by Dr. Robert Bell in primary carcinoma of the cervix uteri, show that it has a marked influence upon epithelial structure, and it is a powerful lymphatic stimulant. Since it has been shown that diseases of the thyroid gland are often accompanied by an excessive menorrhagia, it would seem that the function of this gland exerts some powerful influence upon the lining membrane of the uterine canal. Having successfully treated four cases of dysmenorrhea with menorrhagia in young married, sterile women, with small doses of dessicated thyroid gland, I am inclined to believe that such is the case.

The fact that fibroid tumors of the uterus are frequently associated with morbid glandular action and cystic degeneration may account for the more or less successful results which have been obtained by the use of thyroid gland in a few cases, these results being due to the action of the gland upon the endometrium and utricular glands which have undergone some morbid change. Owing to these considerations I have long felt that the thyroid gland will be found to have a limited usefulness in the treatment of fibroid tumors. My attention was called to the possible value of mammary-gland extract in the treatment of uterine fibroids by a paper presented by Dr. Robert Bell of Glasgow at the meeting of the British Gynecological Society, held in May, 1896, and published in the *British Gynecological Journal*, xii, pp. 157–170, 1896–1897, also in the *International Medical Magazine*, Philadelphia, v, pp. 379–386, 1896. The paper was entitled the "Treatment of Carcinoma of the Uterus, Certain Forms of Ovarian Disease, and Fibroids of the Uterus by Means of Thyroid, Parotid, and Mammary Gland Therapeutics." The author mentions two cases of fibroid tumors of the uterus and two cases of menorrhagia and dysmenorrhea in which remarkable results were obtained by the use of mammary-gland elixir.

Last November I began the employment of mammary-gland extracts and dessicated powders in the treatment of fibroids of the uterus. The preparations were supplied to me by the Armour Company, and by another company of Chicago. I am now treating four cases of uterine fibroma with the product and it will give me great pleasure to report them briefly on this occasion.

Case I.—Mrs. W., white, aged thirty-two years, the mother of two children, consulted me November 7, 1897. Menstruation was regular and normal until after birth of her last child, 3½ years ago, when she began to experience menorrhagia and dysmenorrhea, her periods lasting five to seven days. About 2½ years ago she became conscious of an abdominal growth which has increased rapidly in size. During the past year she has suffered from increasing menorrhagia and metrorrhagia and all the associated symptoms, and she has become a confirmed opium habitué. During this time she has flowed every two weeks, the flow lasting from seven to ten days.

The growth resembled a pregnancy near term, rising one inch above the umbilicus and extending laterally into both flanks, concealing the anterior superior spines of the ilia. It was so firmly fixed in the pelvis that it had absolutely no range of mobility. The abdominal parieties were tightly stretched over the tumor. She was very anemic and extremely nervous. The following measurements were taken: Girth 37 inches; from symphysis to upper edge of tumor, 7½ inches; lateral measurements, 10½ inches. On December 14th, at the end of a menstruation which had lasted two weeks, I began the use of the powdered extract of mammary gland. Her next period began on January 2d and lasted only three days. It was free but not profuse, there were no clots, and only slight pain. She declared that the medicine seemed to aid her materially in her efforts to stop the use of morphin. The tumor seemed to have contracted laterally. It had slight lateral mobility and its surface felt irregular. The anterior superior spines of the ilia could be located. The girth measurement was the same, the perpendicular measurement was ½ inch smaller, and the lateral measurement was 1½ inches smaller. The cervix had risen in the pelvis. Her next period was delayed eleven days and lasted only three days. It was less free than at any time during the previous two years and she experienced no pain. The tumor had

[1] Read at the Twenty-third Annual Meeting of the American Gynecological Society, Held at Boston, May 24, 25, and 26, 1898.

diminished markedly in size, the upper edge being 1 inch below the level of the umbilicus. It had become more irregular and there was increased range of mobility.

I now began to push the drug, and gradually increased the dose from the equivalent of 12 to 72 grains of the raw gland. On the second day after taking the 72-grain dose she developed intense pain, which was located in the tumor. The growth felt extremely hard, and pressure upon it increased the pain. The treatment was stopped for five days and then resumed in 48-grain doses daily. On March 25th her menses appeared again, being *two weeks overdue*, and lasted only three days. The flow was normal in every respect. On April 4th the following note was made: "The tumor is freely movable in the abdominal cavity and is quite irregular in outline. The abdominal walls are no longer tense from intra-abdominal pressure, but are soft and yielding, and can be lifted away from the tumor. The upper edge is 1 inch below the umbilicus and there is marked lateral contraction. The tumor has been reduced about one-third. Her general health has steadily improved and she is rapidly overcoming the morphin habit." Her next menstruation appeared April 20th, two days earlier. It lasted three days. She is still under treatment.

CASE II.—L. G., colored, single, thirty-two years old, had been conscious of a growth in the abdomen for four years. She was kicked in the stomach five years ago. During the past two years she has had profuse and painful menstruation and free leucorrhea. During the past year she bled about every two weeks, the flow lasting six or seven days. She was anemic, debilitated, and was losing strength.

Upon examination a large, irregular, multinodular fibroid of the uterus was found rising two inches above the umbilicus. The bulk of the tumor was on the right side filling up the right iliac fossa. The patient was placed upon increasing doses of mammary gland on January 13, 1898. Under large doses she developed pain in the tumor, which pain disappeared when the dose was reduced. The following is the record of her menstrual periods: January 15th to 22d, profuse, painful; clots. February 9th to 15th, profuse and painful; three days early. March 8th to 14th, free, pain only during first and second days; one day early. April 7th to 12th, some lumbosacral pain on first and second day; two days late. The menstruation is becoming regular and less profuse. There is no intermediate bleeding. Her general health is improving. She is gaining weight and strength. The tumor has diminished very little in size. She is still under treatment.

CASE III.—M. D., colored, aged thirty-three years. Multinodular fibroid of the uterus. Two small nodules were found on the left lateral wall near the fundus, and from the posterior aspect of the fundus arose an oblong, pedunculated fibroid, about 4 inches long and 3 inches broad. It could be felt rising 2 inches above the pubes, and was freely movable from side to side. During the past two years her menstrual periods have been irregular and frequent, usually lasting only three days, but very painful and rather free, with clots. She began treatment November 27, 1897. She now menstruates regularly without pain, and her general health is improving. The two nodules on the left lateral wall of the uterus can no longer be demonstrated and the pedunculated nodule is now one-half its original size.

CASE IV.—B. Y., colored, aged thirty-four years; had one child and two miscarriages many years ago. She had a large, irregular, multinodular fibroid, extending to within 1½ inches of the umbilicus. It was about 4 inches in breadth and freely movable. Her menses have been irregular, lasting three days. The flow was profuse, with clots, and accompanied by severe pain. She often had a flow lasting two or three days between her regular periods. She began treatment April 2d. Her March period, lasting from the 20th to the 23rd, was profuse and painful. Her next period, April 20th to 23rd, was less painful than at any time during the past year and was not so free as usual. On May 7th she said she felt greatly improved in health. Her clothes, which would not meet before treatment, are now loose.

The influence of mammary-gland products in the treatment of fibroid tumors of the uterus, as shown in these cases, is unusual. These women are all under the age of thirty-five years, and, therefore, the menopause cannot be said to have had any influence upon the results which have been obtained. Without the aid of any other form of treatment the tumors are decreasing in size, and the general health of the patients is steadily improving. Under the influence of the drug, menorrhagia and metrorrhagia cease, and the menstrual periods come on at regular intervals. Even if under a prolonged course of treatment these tumors are not dissipated, we can at least claim that the necessity for operative interference has been delayed. It would be folly to attempt to offer an explanation of the physiologic action of mammary gland. That it has a powerful influence upon the uterine muscle or connective tissue, acting in a manner somewhat similar to ergot, seems evident. The fact that large doses of the gland caused cramp-like or contracting pains in the tumors in Cases I. and II. would seem to bear out this statement.

Yellow Fever at Key West.—It is reported that three unmistakable cases of yellow fever have appeared among the marines at Key West, and as many more suspicious cases. The Naval Station at that point will, therefore, be abandoned and the naval base removed temporarily to Hampton Roads. Steps have been taken to quarantine the Naval Station, and to prevent the spread of yellow fever to the city of Key West. The appearance of yellow fever at Key West is not an unusual experience. It is confidently predicted that the disease will be promptly suppressed.

WAR ARTICLES.

THE SICK AT CAMP WIKOFF.

[From Our Special Correspondent.]

UNITED STATES GENERAL HOSPITAL, CAMP WIKOFF, MONTAUK POINT, L. I., August 22, 1898.

THE hospital staff has been so overburdened with work during the past week that every member of it will rejoice when the last of the transports bearing sick and wounded has arrived from Santiago and discharged its load. One ship after another has been inspected, ambulances and covered wagons have carried the patients either to the general hospital or to the detention-camp, and then, just as we have begun to breathe with some comfort, another vessel arrives, and the program is repeated. Fortunately, the plan of the general hospital allows of the accommodations being increased to an almost unlimited extent, and where we could provide ten days ago for 500 patients, we can now care for nearly twice that number. It was found necessary to extend the wards already up, and to erect additional ones, so that there has been much confusion. We are gradually settling down to a regular routine, however, and things are running smoothly.

A majority of the men brought to the hospital from the transports have been in a condition closely bordering on collapse, and each shows pitiable results of lack of good food and nourishment. The men stood the voyage from Santiago fairly well, as a rule, but all complain that the transports were overcrowded, and that there was a lack of medicines and rations. The care each of the sick received was as good as could be expected under the circumstances, but the majority say that about the only medicines on board were ammonia, camphor, and opium.

Nurses pass down each ambulance train with whisky and hot milk, and minister to each of the men before they are unloaded at the hospital, and more of the same is given them as soon as they are taken to the wards. This treatment has had a wonderful effect in reviving them, and in from twelve to fourteen hours after admission most of the men have been able to do for themselves. I cannot better describe the appearance of these poor fellows than by saying that, without exception, they remind me of pictures of the prisoners in Libby Prison during the Civil War.

The general condition of the patients, aside from exhaustion, is fairly good. There are about 200 cases of typhoid fever, 4 of measles, 30 or more of malaria, and more than 100 of chronic diarrhea and dysentery. The Red-Cross nurses and Sisters of Charity, who arrived last week, are doing most acceptable work, and their help was much needed.

The expected improvement in the water-supply has not materialized as yet, although we look for a change for the better very soon. The matter of latrines, as far as capacity is concerned, promises soon to be a serious question. In the vicinity of the hospital the ground is low, and when a pit is dug it drains from the swamps, so that it is impossible to go more than a foot below the surface before the excavation fills with water. It soon will be necessary to locate the sinks on higher ground some distance from the hospital, which will add greatly to the inconvenience. The constant use of the commodes in the wards by those patients who are able to be out of bed is impracticable, as will readily be understood. The surgeon in charge, Major Ira C. Brown, has established a guard which is on duty day and night at the latrines to prevent the commission of nuisances.

Supplies, both medical and otherwise, are coming in fairly well, but as the hospital fills the requisitions of the different regimental surgeons it is necessary to practice considerable economy. The Red-Cross Society and the Women's National War Relief Association have done splendid work, and the sick and wounded have much to thank them for.

The detention-camp, as well as the grounds of the General Hospital, are now patrolled night and day by mounted guards, and no one is allowed to pass the lines except upon presentation of an order signed by Major Brown. All the patients ill with yellow fever at the isolation camp are doing well and will recover. No case of this disease has developed primarily in the camp.

Up to the present time but twenty wounded men have arrived here. The wounds had all healed prior to their arrival. All speak in words of praise of the first-aid dressings, which were applied on the field immediately upon receipt of the injury.

The burying-ground has been established on a hill overlooking the camp. Up to yesterday there had been five deaths—three from typhoid fever and two from dysentery. The bodies are given a military burial, but on account of the nearness to the hospital wards the firing of a volley and sounding of "taps" has been prohibited. A Protestant chaplain and a Roman Catholic priest are in constant attendance on the patients, and one or the other conducts the burial service.

There have been no cases for the surgical wards as yet. All the typhoid-fever patients, with one exception, are improving. We have discharged, on an average, twenty men a day so far, and expect to keep this up. A post-office has been established under the supervision of Major Brown, and is proving a great convenience to all at the hospital.

THE HEALTH OF SAMPSON'S FLEET.

BY RAYMOND SPEAR, M.D.,

ASSISTANT SURGEON, U. S. N., ON BOARD FLAGSHIP "NEW YORK."

THE health of the navy during its stay in Southern waters has been remarkably good as compared with that of the army. The navy has been exposed to the same tropical diseases as the other branch of the service, but not, however, to so great an extent. The principal diseases that the navy doctors have been fighting to keep out of their ships are yellow fever, dysentery, and malaria. The first has been effectually kept out by quarantine and disinfectant measures; dysentery has not been allowed aboard any of the ships because everybody drinks distilled water only; malaria has been guarded against by selecting places free from the disease for anchorage and by not allowing the men to go ashore. A great many of the ships have now been in Southern waters for nearly eight

months, the first rendezvous having been at Dry Tortugas, where the general health was excellent, not one death being recorded. The "Montgomery" and "Fern" were in Havana harbor after the "Maine" was blown up but there was little sickness on either ship. The health of the divers who were compelled to work in water that was so foul that they could scarcely see two feet in front of them during the day was excellent. These men, as well as their diving-suits were disinfected after each day's work, and the men themselves were given quinin and whisky. None of the men was allowed ashore; all the water they drank was distilled from water obtained on shore, and all articles taken from the wreck were disinfected as soon as they were taken aboard the ships. Coal and provisions were obtained from Key West.

Then Sampson's larger ships were assembled off Santiago. Here, away from the shore, the general health of the men continued to be of the best. The temperature rarely mounted to a higher point than 85° F., and there was almost always a fresh breeze blowing. A certain amount of communication with the Insurgents was necessary. The Cubans were allowed aboard the ships just long enough to transact their business and no longer. When the army landed at Siboney, yellow fever soon made its appearance in its ranks and a quarantine was established by the navy against the army. The exigencies of the situation demanded a certain amount of communication between them but it was limited to official business.

On the "Maria Theresa" there are wreckers and a guard of sailors from the U. S. S. "Potomac." The wreckers obtain their drinking-water from shore, and several cases of diarrhea can be traced to this cause, as the sailors who drink distilled water have been perfectly healthy. Two of the wreckers were taken sick and all on board the Spanish ship were much relieved to learn that their companions were suffering from malaria and not "Yellow Jack." The odor of decaying flesh was still strong and in some of the lower compartments of the ship a lantern would not burn. The gases that have collected in some parts of the vessel are very irritating to the eyes, but the burned saltpetre from the powder may be responsible for this. Amid these unsanitary conditions the wreckers and guard have lived, and on the whole their health has been good.

The navy captured a number of ships in Santiago harbor. Crews were sent to clean and disinfect them, and when they returned to their respective ships, in the course of a week, they were all disinfected, as were their clothes. While aboard the prizes they were made to drink the distilled water they had taken with them. All returned in good health. The crew of a steam launch belonging to the U. S. S. "New York" was compelled to sleep ashore one night at Siboney during the embarkation of the army. The men slept near a stagnant pond at the water's edge and three of them were taken sick with malaria, as proved by examination of their blood. There have been some cases of malaria in the fleet, but most of the patients have old malarial histories.

Grippe has been with the fleet also. Some of the ships are infected with this disease and cases crop out every once in awhile. They are characterized by general weakness, irregular fever, and catarrhal symptoms of the upper respiratory tract. All patients recover in the course of a few days. Until the fleet anchored in Guantanamo Bay there was very little diarrhea. In Santiago Bay, however, it made its appearance and the only explanation that can be given is the difference in temperature between the days and nights, which is considerable. The nights in the bay are considerably cooler than they are out at sea, and as the men usually are careless about the way they sleep it is easy to see how their abdomens can become chilled by exposure to the cool night air. The symptoms these patients present are: diarrhea, abdominal cramps, and moderate fever. The cases run a course usually from one to four or five days. On one of the smaller ships almost all the members of the crew were taken sick with abdominal cramps and diarrhea, and all complained of thirst, while some had slight fever. The drinking-water was examined and found to be full of salt. As soon as this was remedied all recovered.

Venereal diseases, except syphilis, have become a thing of the past. This is readily explained by the fact that most of the men have not been ashore for several months. A few cases of heat exhaustion have been recorded on some of the smaller ships. On the large vessels the firemen have little to do and are having a comparatively easy time.

There have been only three deaths on the ships stationed about Santiago, not counting the men killed in battle. One man committed suicide by shooting himself in the head, another was killed by the explosion of a shell, pieces of which entered his abdomen, and the third killed himself by drinking shellac.

The following is a sample of the daily report of the sick on some of the ships. Many of the cases on this report are minor injuries; there are also some patients left here by other ships which are waiting the arrival of the "Solace."

	Number of people aboard.	Number of sick.
"New York"	658	21
"Oregon"	555	14
"Brooklyn"	560	27
"Massachusetts"	516	21
"Newark"	315	14
"Iowa"	583	8
"Indiana"	562	13
"Dixie"	325	2
"Marblehead"	269	6
"Yankee"	324	5
"Detroit"	250	3
"Vesuvius"	79	0
"Resolute"	122	11
"Scorpion"	111	4
"Vixen"	80	6
"Wompatuck"	32	0
"Osceola"	28	4
Marine Battalion	496	12
	5865	171

This gives an average of about three per cent. sick for the ships, and about two and a half for the Marine battalion.

The navy has lost remarkably few in killed and wounded during the war. The cases of sickness have been so few that the fighting ability of this branch of the Government service has not been impaired in the least.

SANITARY NOTES ON CHICKAMAUGA PARK.

By HENRY I. RAYMOND, M.D.,
MAJOR AND SURGEON, UNITED STATES VOLUNTEERS.

I HAVE been watching with keen interest the experiment of rendering the water of the Park fit for drinking purposes, by use of the Magnon and Berkefeld filters. One month ago these filters were introduced on the grounds, and were liberally supplied to each regiment or separate command with instructions for their use.

Have they been found of practical utility under conditions here existing? The answer is, no. The reason or reasons for the failure of the experiment I will not venture to assign. One Magnon and one Berkefeld filter has been made to supply the Ambulance Company, about 180 strong, with filtered water free of germs and palatable, but this was possible only under the exercise of the greatest vigilance by the officer of the day, and the Quartermaster, who were held to strict accountability by the commanding officer.

Nevertheless, while it has been demonstrated that the thing can be done even under adverse circumstances—hauling of water twice daily from a spring six miles distant from camp and with a command crippled by sickness, and numerically weakened by detached service—the experiment has been trying to the nerves and equanimity of the officers concerned, and we hail with delight a changed condition of affairs by which it is proposed to boil all drinking-water in large iron vessels furnished by the Quartermaster's Department. The water can then be measurably aerated by pouring it from a height in a gentle stream through the air into a barrel for its reception, and cooled by ice if that article can be furnished.

Another similar proposition has been under advisement, namely, to supply the fifteen regiments with twenty barrels of boiled water per day by use of one large boiler guaranteed to supply one thousand barrels per day. The cost of boiler *in situ* not to exceed six hundred dollars; to be of sixty horse-power and with pump running at four or five pounds pressure to force the water into barrels on a platform of sufficient height to permit the water to be drawn off directly into barrels placed in a wagon at the side of platform; or the boiled water could be piped to different localities throughout the Park.

Despite the attempt to secure an unimpeachable water-supply, sickness (typhoid and malarial fevers and diarrheal disease) has been greatly on the increase during the past month. When writing you at the beginning of the experiment there were about three hundred cases of sickness in our Division Hospital; to-day there are nearly six hundred cases.

It is proposed to send North, to-morrow, fifty of these men from the 1st Maine Regiment on furlough by a special train, and fifty more will be transferred to the George M. Sternberg General Hospital which is about to open its doors. This hospital is located near the Widow Glenn field, and is under the immediate charge of Surgeon R. E. Giffen of Nebraska, with Major Charles B. Ewing as Executive Officer. Its personnel further includes a large number of Acting Assistant Surgeons and trained female nurses. Its capacity is five hundred beds, with facility for further expansion. The hospital tents or wards are arranged in a terraced formation, ten deep, running down the hillside with an open platform between each descending ward. All floor space is covered with planed lumber. The hillside furnishes natural drainage. The linen looks immaculate. The influence of this hospital promises to be very great, granting much-needed relief to our overburdened division hospitals.

During the first half of August our Division Ambulance Company has transported about twelve hundred sick. In addition to the overcrowded condition of the division hospitals the regimental dispensaries, now assuming the proportions if not the title of regimental hospitals, are receiving many sick of their own commands, there being in some instances many more than a hundred sick "in quarters" and dispensary.

Regimental hospitals may, perhaps, be suited to the present peace conditions, although it is well known that the experience of the Civil War demonstrated their inadequacy and want of adaptability to the exigencies of the battle-field.

Among the means adopted for the prevention of disease may be mentioned the establishment of regimental camps on the open hillsides where the sun's rays can find free access to the soil unhindered by foliage, and where more perfect drainage can be secured than on the relatively low-lying grounds; also, the frequent removal of camp-sites, that by longer occupancy would lead to soil pollution and air contamination. The flooring of tents with lumber—those pertaining to officers and men, sick and well alike—is a measure calculated to reduce the number of malarial and diarrheal cases to the minimum. Requisitions have been made for lumber in sufficient quantity for the purpose, and this not inconsiderable item of expense has been allowed under a wise and liberal administration of affairs.

To provide a wholesome water-supply and to raise the men from the damp soil while sleeping in the night air, are two very important factors tending toward an amelioration of conditions existing in this camp. Another factor that may be urged in explanation or extenuation of the enormous sick-rate in the camp is the considerable number of men who were physically unsound, and hence unfit for the duties and hardships of camp life, when enlisted. These before receiving their discharges on Surgeon's Certificate of Disability unfortunately have tended to encumber the sick report for a longer or shorter period, as well as to engross the Surgeon's time in the perfecting of their discharge papers, and the board's time in reviewing their papers previous to their being submitted for the action of authority competent to order the discharge.

FEVERS THAT ACCOMPANY AN ARMY.

[Special Correspondence of the Medical News.]

Morro Castle, Santiago de Cuba, August 15, 1898.

After a month in the field with the Fifth Corps of the United States Army operating in the province of Santiago de Cuba, I have been able to see and study, in a general way, the fevers which accompany any large body of men actively engaged in a tropical country, constantly exposed to the sun even during the midday hours when the natives themselves are unable to engage in the ordinary duties necessary to their lazy existence, and who have learned from experience that exposure to the heat during these hours predispose them to the indigenous fevers. This, with an unacclimated people handicapped by the hardships of war, such as insufficient amount and poor quality of food, the bad sanitary conditions that a large body of men constantly moving without baths or change of clothing for days are subjected to, and compelled to drink water that has been contaminated by a fleeing mob of filthy refugees, who bathe, drink, cook, and wash from the same stream, has taken more lives from the United States than all the Spanish shot and shell. The Medical Department has had a very grave question to consider, and the care of the sick has proven to be one which will be given more thought and attention in the future. Medical supplies, doctors and nurses, tentage, and ambulances have not been sufficient for our sick during the past, but those in authority are making herculean efforts to correct what the American people would never forgive, and which would be a blot upon the name of any country whose almost inexhaustible resources will permit of no such neglect.

Leaving Fort Monroe July 3d, on the hospital ship "Relief," were fifteen acting-assistant and volunteer surgeons, among whom were Dr. Senn of Chicago, and his first assistant, Harry A. Greenleaf, all of whom were landed at Siboney on the 7th of July and temporarily assigned to the general hospitals at that place, where all of the wounded up to this time had been transported and cared for. After three days work here we were sent to the front and assigned to different regiments and commands. The writer, being detailed to Batteries G. and H. of the Fourth Artillery, siege train, remained with that command until the 23rd, when he was ordered with Battery G. of the Fourth Artillery to Morro Castle, and is at present acting-surgeon at that fort, the first United States army fort established on the island. During this time I have had to deal only with the sick, there being no wounded, and have noted as carefully as possible under rather trying conditions the symptoms, course, and sequelæ of these fevers.

The prevailing fever, and the one which is often incorrectly diagnosed, and is quite frequently mistaken for some type of malaria, is commonly called "sun fever" in the States, and is often encountered in the Southern States during the harvesting season. This fever, very much resembles malarial fever in its onset, and during its course the symptoms are in a great many respects like those of yellow fever, and undoubtedly have been mistaken for the latter. This, of course, would not be likely to occur in general practice where every case could be closely watched, temperature taken, daily examination of urine made, and where histories would be of some value, but this is vastly different from what we had to contend with in the field during the past month. Histories were of no value whatever, because every soldier has been subjected to the same hardships, and exposed equally to the same hot, tropical sun. Then again, this fever must be differentiated from malaria, and here also there are like symptoms to complicate conditions and make a true diagnosis difficult.

In sun fever, malaria, and yellow fever one meets with very similar symptoms, such as a temperature ranging from 100° to 107° F.; vomiting, in color clear, yellow, and dark; headache, supra-orbital, and post-cervical; pains in the epigastrium, lumbar region, and in all extremities; constipated bowels, and high-colored urine, very small in amount during twenty-four hours. In malaria and sun fever the patient has frequent chills, which differ in some respects, a fact which is of great diagnostic value. In yellow fever and sun fever the conjunctivæ are injected, but the injection is of different color and intensity, which also is a very valuable point in differential diagnosis.

During the past month, during two weeks of which time I have seen as many as 120 of these fever cases daily, I have only seen four true cases of yellow fever. I have often met what I was forced to look upon as suspicious cases, in which albumin was found in large amounts in the urine, the men being promptly isolated and and treated as yellow fever cases, but only in the four instances mentioned have I met with what I consider an infallible sign, and that is the characteristic injected conjunctivæ. This is difficult to describe, but when once seen is never forgotten. It is of a pale-yellow color, generally diffused, and gives the eye a lack of expression and appearance of a sightless one. This should be especially noted in contradistinction to the appearance of the eye in sun fever, in which there is a bright-red injection, the capillaries are well-defined and separated by small areas of healthy conjunctiva, and the expression is that so often seen in the eyes of fever patients. In both yellow fever and sun fever vomiting occurs in the early stages, the color of the vomit in the first named ranging from dark-yellow to black, and finally becoming fixed in character. The vomiting has no especial relation to ingestion of food, while in sun fever it always follows the taking of food, and often even the drinking of water. In the latter it varies from light to yellow in color, has no odor, and does not weaken or depress, as in yellow fever. The two common symptoms of malaria and sun fever are high temperature and chills. In malaria, however, there may be a little morning and evening temperature, while in sun-fever a morning temperature is rarely noted, and the evening temperature is perhaps a degree and a half to two degrees higher than in malarial fever, the difference in surface or skin temperature being perceptible to the touch. There is also a difference in the chill phenomena. In malaria there is the usual rise in temperature, followed by a chill, and then the sweating stage, while in sun-fever the chill accompanies the fever

and there is no distinct sweating stage, the chill being essentially nervous. This fever has been improperly called "acclimating fever," but apparently the natives are as frequently attacked by it and their attacks are quite as severe as those met with among our troops. The natives, however, either from experience or a natural antipathy to work, are immune to a certain extent because they expose themselves but little to the midday sun. Sun-fever has incapacitated our troops more than anything else in Cuba. Upon exposure to the sun or reflected heat for days afterward the men suffer from intense headache and nausea, either to the extent of vomiting or to a degree that interferes with natural digestion, and consequently they lose flesh and become so weak that at the present time there are at least five thousand of them on the island who scarcely have strength to present arms.

The treatment of this fever in the acute stage is simple, and fortunately so, for in time of war some medicine-chests are left behind, and in my little experience I have used but three drugs in a general routine treatment. While the treatment is somewhat heroic, it has been quite satisfactory. Of course, when possible, a full bath or sponge bath is given immediately. This is followed by the administration of magnesia sulphate in half-ounce doses every hour until copious watery stools are passed. Calomel should always be given in ½- to 1-grain doses every hour until from four to six doses have been taken in cases in which the patient is seen in the morning and before fever is apparent. Ol. terebinthinæ should be given in 20- to 30-minim doses three times daily. Water should also be taken in large amounts, and should be well acidulated with lime-juice. Phenacetin, salol, and acetanalid would have been of much value, but were not to be had. The ideal treatment, of course, after the acute stages, is to send the patient where climatic conditions are favorable. This seems rather absurd and impracticable in the case of an army of sick men, but apparently it is the only solution of the question, and the only logical treatment. Up to the present time I have not met with a single case of enteric fever, and while conditions are in every way favorable to its production it is probably not an indigenous fever. Both yellow fever and enteritis will doubtless become epidemic in Santiago before the summer has passed as the city is in a very unsanitary condition and overcrowded. In fevers that accompany an army in a tropical country it seems to me from my small experience that sun fever is the most to be dreaded, and necessarily unavoidable.

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MEMORANDA RELATING TO OPERATIONS OF THE MEDICAL DEPARTMENT.

THE following memoranda have just been issued from the Surgeon-General's office at Washington:

Medical Officers.—The number of medical officers allowed by law is inadequate in times of peace. The total number allowed is 192. There are at present thirteen vacancies. The administration of the Surgeon-General's office and the Army Medical Museum requires six. Eleven are on duty at medical-supply depots and as chief surgeons of military departments. One is at the Soldiers' Home; fifty-six are at general hospitals, on hospital ships, and at garrisoned posts. Four have been disabled during the war by sickness. Five are on duty as chief surgeons of army corps. This leaves ninety-six medical officers available for duty with troops in the field. Of these, thirty-five have been appointed brigade surgeons of volunteers and are distributed among the various army corps.

This deficiency in regular medical officers has made it necessary to employ nearly 400 contract surgeons, and more are being employed every day. Most of these doctors from civil life are doing good service, and many of them are thoroughly well-equipped physicians and surgeons with ample hospital experience, but it has been impossible to make a careful selection, owing to the great pressure of business in the Surgeon-General's office, and the urgency has been so great that it has not been practicable to have examining boards to pass upon their qualifications.

In addition to this there have been appointed by the President, eight brigade surgeons with the rank of lieutenant-colonel, twenty-four division surgeons with the rank of major, and sixty-five brigade surgeons; also, three medical officers for each of the regiments of United States Infantry, Cavalry, and Engineers. All volunteer regiments have three medical officers appointed by Governors of States.

General hospitals have been established at Key West, Fla., with a capacity of 755 beds; at Fort McPherson, Ga., 1050; Fort Thomas, Ky., 432; Chickamauga Park (Leiter Hospital), 255; Fort Monroe, Va., 535; Fort Myer, Va., 308. In addition to this several hundred sick and wounded soldiers have been placed in the Marine Hospital on Staten Island, and in civil hospitals in New York and Brooklyn; also, nearly 200 in the civil hospitals in Charleston, and a smaller number in civil hospitals in various parts of the country.

The hospital train, which was equipped for service June 22d, and consists of ten tourist sleepers and a dining-car, has made repeated trips from Camp Thomas, Tampa, and Fernandina, with sick to the general hospitals at Fort McPherson and Fort Thomas, and has proved to be most useful.

The hospital ship "Relief" was purchased May 18th, but owing to delays in preparing her for service did not sail from New York until July 2d. Four days later she arrived at Siboney with an amply supply of medical stores of all kinds and with sixteen doctors. She returned to New York with a load of wounded and was then dispatched to Porto Rico. She is now returning to New York with 260 sick and wounded soldiers.

The hospital ship "Olivette" went with the Fifth Army Corps from Tampa, Fla., to Santiago and brought a load of wounded from that port to New York. She returned to Santiago with supplies and is now en route to New York with 200 patients.

Medical Supplies.—When the troops were ordered from their respective posts into the field, each regiment was required to take with it medical and surgical chests, litters and field supplies for three months. Afterward, medical supplies in ample quantities of all kinds were sent to Tampa for the Fifth Army Corps, about to sail for Cuba, and supplies have subsequently been sent to the several camps that were formed, wants being anticipated as far as possible and requisitions approved promptly on receipt.

Supplies for the army have been furnished from three medical-supply depots: New York, St. Louis, and San Francisco, the latter suppling very largely, by purchases on the Pacific Coast, the troops that went to Manila. The St. Louis depot supplied the camps and regiments in the Mississippi Valley and the West; and the New York depot the camps and expeditions fitted out from the Atlantic Coast.

In addition to general medical supplies in great variety, 1204 medical and surgical chests have been issued, the surgical chests containing surgical instruments and dressings especially designed for the relief of the wounded on the battle-field.

The extent of the demand upon the medical-supply depots is indicated by the following figures, showing the issues of some of the more important articles:

First-aid packets	No.	272,000
Hospital-corps pouches	No.	5797
Orderly pouches	No.	509
Pocket cases	No.	962
Surgeon's field cases	No.	369
Field-operating cases	No.	328
Medical and surgical chests	No.	1204
Litters	No.	2250
Litter slings	No.	7600
Cots and bedsteads, with bedding	No.	18,185
Blankets, gray	No.	23,950
Field desks	No.	440
Quinin pills	No.	7,300,000
Chloroform and ether	Botts.	13,220
Gause, sublimated, metal packages	Pkgs.	100,625
Gauze bandages, three sizes	No.	331,776

Sick and Wounded. — At the present time (August 15th) we have a full record of 40,520 cases of sickness and wounds that occurred among a mean strength of 154,028 men, during the months of May, June, and July. As the average of the three months probably six per cent. of the troops were constantly sick. Reports from commands not yet represented in the statistics are expected daily.

Hospital Corps.—At the outbreak of the war the Hospital Corps consisted of 100 hospital stewards, 103 acting hospital stewards, and 520 privates, making a total of 723. The larger part of this number was ordered with the troops that left their respective stations to the camps of concentration and accompanied the regular regiments in the Fifth Army Corps to Cuba, the smaller part being left behind at the various army posts, they being just enough to take care of the medical property.

Enlistments were at once ordered throughout the country of suitable men for the Hospital Corps, special attention being paid to enlisting nurses, pharmacists, cooks, drivers, mechanics, etc. A good many medical students and young physicians were also accepted.

By means of enlistments and afterward by transfers from volunteer regiments to the Hospital Corps a large number of men were obtained, and to-day there are in service by actual count 5084. Probably 1000 are in service whose enlistment and transfer is not yet reported.

In addition to the members of the Hospital Corps enlisted for the purpose of taking care of our sick and wounded we have employed 141 male and 386 female nurses under contract.

CLINICAL MEMORANDA.

SARCOMA OF THE ORBIT.

By DAVID WEBSTER, M.D.,
OF NEW YORK.

DR. C. P. McC., aged thirty-one years, was referred to me by Dr. Gibney, March 18, 1891, with the following history: Four weeks before his friends thought they noticed a slight protrusion of his right eye and called his attention to it, but he experienced nothing wrong until a week later he began to have double vision on looking upward or to the left. In a very few days the eye began to bulge forward quite perceptibly and the protrusion increased rather rapidly. He had no pain in or about the eye and had done nothing for it. His family history was negative. He denied syphilis. When eight years old he was thrown by a pony and had considerable swelling in his groin. His physician thought it might have to be lanced but succeeded in scattering it. After some years the swelling in his right groin reappeared and was lanced. He had had chronic suppurative otitis media of the right ear, with occasional exacerbations, since infancy. Hearing: right ear, 2/60; left ear, 20/60.

There was marked exophthalmus of the right eye and slight swelling of the lids. A small tumor could be felt through the lower lid at the outer angle of the orbit. This tumor was very firm to the touch. Right eye: vision, 20/70; 20/15 with 1.50 D. cyl. axis 90°. Left eye: vision, 20/30; no improvement with glasses; accommodation normal. Ophthalmometer showed astigmatism, 2. D., against the rule. Hyperphoria R. 2°; no esophoria nor exophoria; abduction 6°, adduction 16°. Visual field of right eye somewhat contracted above and to the temporal side; tension normal. Ophthalmoscopic examination: temporal half of right disk somewhat pale and bluish; a small scleral crescent to temporal side of disk.

The patient was admitted to a bed in the Manhattan Eye and Ear Hospital on March 20th, and having been placed on the operating-table was further examined. His epitrochlear glands were found to be slightly enlarged. His inguinal glands had a "shotty" feel. None of his cervical glands was enlarged. The patient admitted having had gonorrhea many years since, but still denied ever having had a chancre. After due consultation, however, it was decided to defer the operation and to try the effects of antisyphilitic treatment. As the case was thought to be sufficiently grave to justify heroic treatment he was at once put upon iodid of potassium, 60 grains, three times a day, to be increased 15 grains daily, and oleate of mer-

cury, 20 per cent., half a dram being rubbed into a different part of his body or limbs night and morning.

March 23d. The patient complains of pain in his jaw at the angle, and in both eyes. He thinks this is caused by the iodid.

March 25th. The iodid has been increased to 110 grains and he is having half a dram of the oleate of mercury rubbed in three times a day. He has been attacked with severe pain in his toes, for which a liniment and hot fomentations were applied.

April 1st. The eye is not so prominent and the tumor seems to have diminished some. Vision, 20/15 in each eye. As the patient seemed to be improving he was, at his own desire, allowed to go home, with a view to continuing the treatment there and returning to the hospital when indicated.

April 6th. He writes that he is taking 110 minims of a saturated solution of iodid of potassium three times a day and rubbing into his skin half a dram of oleate of mercury twice a day. His foot pains less than it did but he has frequent shooting pains in the eye.

April 10th. He has stopped the oleate because it began to effect his mouth. He has severe pain in his foot every night.

April 15th. He is now taking 120 minims of the iodid solution three times a day. He is actively engaged in professional work. His eye pains some and he thinks he cannot see quite so clearly with it as he did.

April 18th. He continues to suffer with his right foot. The orbital tumor seems not to have made any progress. He has slight headache occasionally, a thing he never had before.

April 23d. He is taking 125 minims of the iodid solution three times a day. The pain in his foot has been relieved by 10-grain doses of antikamnia.

May 8th. The patient asks permission to place himself under the treatment of a quack who promises to remove the tumor without operation.

July 1st. The quack has failed to help him. The eye protrudes more and is now almost constantly painful. The pain keeps him awake nights.

July 6th. Readmitted to the hospital. There is considerably increased exophthalmus, the eye being pushed directly forward but with an upward displacement, being on a higher level than the fellow eye, and solid fulness can be felt between the infra-orbital edge and the globe. There is no swelling of the lids or of the conjunctiva. There is scarcely any redness noticeable anywhere about the eye. The eyeball itself is, apparently, perfectly sound. Vision, 20/70; 20/20 with —2 D. cyl. axis 90°. With my consent the patient consulted Dr. Knapp, who said he believed the neoplasm to be a periorbital sarcoma, and advised its removal. The patient was, accordingly, placed under ether, and the eye was washed with bichloride-of-mercury solution, 1–5000. With a scalpel an incision was made along the lower orbital margin and curved around the external canthus along the supra-orbital edge to one-third its extent. The included tissues were then dissected up and turned upward over the eyeball, the conjunctival cul-de-sac being carried with the flap. The tumor, which was thus exposed, was then removed piecemeal, the sclera being exposed on one side and the wall of the orbit on the other. The tumor embraced the eyeball, as it were, in a socket, extending far back toward the apex of the orbit. The anatomic elements in the orbit were all destroyed except in the superonasal region, where the growth did not extend. The orbital plate of the superior maxillary bone was found to have undergone absorption from pressure of the growth. The hemorrhage having been arrested and the wound cleansed, the flap was replaced in position and sutured. The wound was dressed with bichlorid gauze and cotton and a bandage applied.

July 7th. There has been considerable bleeding from the wound, the blood saturating the dressings. Upon removing the dressings and washing the eye the wound seemed to be healing by primary union.

July 8th. The bandage was again stained with blood, which seemed to come through the palpebral fissure.

July 9th. Inflammation has set in. There is swelling of the lids and the dressings are saturated with bloody exudation. Vision: perception of light.

Panophthalmitis set in soon after this, and the patient remained in the hospital until August 14th, nearly six weeks after the operation, when he was discharged with a sightless and shrunken eyeball.

September 22d. His family physician says there is no return of the growth. The entire right side of the face, nose, teeth, and tongue have been numb since the operation. He has no pain in or around the orbit, but a very disagreeable feeling.

The tumor never returned in the orbit. The next I heard of the patient was that he died on April 25, 1892, about nine months after the removal of the orbital tumor, of *cancer of the throat*. I am under the impression that the tumor was examined microscopically and found to be a sarcoma, but the present pathologists of the hospital are unable to find any record of such examination. If I had removed the eyeball at the time of the operation, the patient would have been spared weeks of suffering.

MIDDLE MENINGEAL HEMORRHAGE DUE TO SKULL-FRACTURE; OPERATION; RECOVERY.

By EDGAR P. COOK, Jr., M.D.,
of Chicago;
Interne in Cook County Hospital.

F. S., aged twenty-two years, a dentist, was admitted into the Cook County Hospital at 11.20 P.M., October 4, 1897, in a comatose condition. His father stated that the patient had come home about three hours before and complained that he had been struck on the head by a man and did not feel well. He assured his parents that there was no occasion for alarm, for he "would be all right"; but instead of getting better he gradually became stuporous and passed into the unconscious condition present on his admission into the hospital. Two physicians had examined the patient at his home and advised the application of an ice-bag to the head.

It was subsequently learned from the patient himself that a man had struck him on the side of the head with the bare fist in a quarrel. The blow was delivered at close range as he was walking past his assailant, and although it was sufficient to stagger him he did not fall. On the contrary he was able to walk nearly a mile to his home. At the time he felt dizzy but he did not lose consciousness until at least half an hour later.

When admitted into the hospital, the patient lay in complete coma; it was impossible to arouse him on making strong supra-orbital pressure. On irritation, he moved the left arm and leg but there was nearly complete paralysis of the right upper and lower extremities. No special change in the facial muscles was noted. The pupils were unequal, the left being widely dilated and not reacting to light. The pulse was 48, regular, and full. The temperature was normal and the respirations were slow and regular, but not stertorous. The patient retched frequently but did not vomit. Occasional convulsive tremors passed over the body. The bladder and rectum were normal. Over the left temporal muscle, above and in front of the ear, was a slight contusion but careful examination failed to reveal any local signs of skull-fracture.

A diagnosis of middle meningeal hemorrhage was made and immediate trephining advised. The entire head was shaved and cleansed surgically. Under ether anesthesia a horse-shoe-shaped incision was made over the left temporoparietal region, beginning anteriorly just behind the temporal artery, to avoid wounding, and continuing upward and backward behind the ear, the center of the incision being directly above the left ear midway between the auricle and the sagittal suture. A flap consisting of the periosteum and superimposed muscular and cutaneous tissues was turned down, disclosing at the base of the flap a depressed, comminuted fracture of the squamous portion of the temporal bone of the size of a half-dollar. The fragments of bone were elevated and removed, exposing a large, dark, bulging blood-clot underneath. As the removal of part of the clot started brisk arterial hemorrhage, the opening in the skull was rapidly enlarged with rongeur forceps in order to expose the field better. More clot was now removed and the source of the hemorrhage was discovered, the blood spurting in a stream from a small opening in the dura, which was pushed away some distance from the skull by the clot of blood. To arrest the hemorrhage a round needle, threaded with fine silk, was passed through the dura near the bleeding-point and the thread used as a tractor to pucker up the dura; the bleeding-point was then easily caught up with hemostatic forceps, a procedure previously tried unsuccessfully, as the forceps merely pushed away the tense dura without grasping any part of it. The active hemorrhage having been checked, the artery could be seen coursing through the dura as a light line on a darker background; judging from its anatomical relations the vessel was the posterior branch of the left middle meningeal artery. Two fine silk ligatures were passed through the dura and around the artery, one on each side of the point of rupture. On tying these and removing the forceps the arterial hemorrhage was entirely controlled. The balance of the blood-clot was now gently removed, the little finger being used for this purpose. The clot was of the size of a tea-cup, at least, and on its removal a large area of the internal surface of the petrous portion of the temporal bone was exposed to sight and touch; the clot extended to the base of the skull and also a considerable distance toward the vertex. The dura did not return to its normal position on the removal of the clot and a large vacant space remained inside the skull. Into this space a loose iodoform gauze packing was introduced, one end being brought out at the lower posterior point of the scalp wound. Another gauze drain was carried through and through at the base of the flap outside of the skull. The external wound was closed with interrupted silkworm-gut sutures, leaving provisional sutures at each end of the flap where the gauze drains protruded. The usual large aseptic dressing was then applied.

The patient returned from the operation in good condition at 3 A.M., October 5, 1897. The pulse was 64 and the respirations normal. The pupils were equal and reacted normally. Six hours later the patient was awake and perfectly rational. He said he felt all right and wanted to go home. All paralysis of the extremities had disappeared; there was a slight impairment of the muscular action of the right side of the face but no definite paralysis. Hearing was normal. The subsequent course of the case was uneventful. The drain into the skull was removed at the end of thirty-six hours and the other drain twenty-four hours later, and the wound closed by tying the secondary sutures. Union was by primary intention.

The patient left the hospital at the end of four weeks. There was no paralysis or disturbance of special sense. At the site of the fracture just anterior to the left external auditory meatus the brain pulsation can be noted on close inspection beneath the temporal muscle, showing that the dura has been restored to its normal site.

I am indebted to Drs. Davison, Bassoe, and Ford for assistance in the operation. The case is of interest, presenting, as it does, both in the history and the physical findings, the classical picture of internal hemorrhage from the middle meningeal artery. It also illustrates how so serious a lesion may arise from slight external violence, and emphasizes the value of prompt diagnosis and immediate surgical interference in a class of cases where the expectant plan of treatment has almost invariably resulted fatally.

THERAPEUTIC NOTES.

Blood Clysters in Pulmonary Tuberculosis and Anemia.—WHITTAKER (*Jour. Amer. Med. Assoc.*, August 6, 1898) calls attention to the polycythemia which exists at high altitudes. At 14,000 feet in the Cordilleras, in Peru, the number of red blood-cells is almost double the number found in blood at the sea level. The increase at less high altitudes is proportional. To this polycythemia, not less than to the bracing air and out-of-door life, he attributes the ease with which tuberculosis is cured in

mountain-resorts. By artificially reducing the pressure in a room in which a rabbit is kept, it has been found possible to cause a corresponding increase in the number of his red cells, and a corresponding increase in the amount of oxygen which he absorbs. Even in so short a time as four weeks, this difference amounted to about one-fourth. Whittaker tried similar experiments upon men, but failed to get the same results, perhaps on account of the relatively small size of the cabinet, and the lack of an abundance of fresh air.

Attempts, however, to supply the system with a daily quantity of ready-made blood, were more successful. To prevent coagulation, preserve the life of the corpuscles, and to intensify the alkalescence of blood, he adds to it a little salt, soda, and milk sugar. Some persons are able to drink blood without repugnance, but taken in this way it has no particular advantages over other equally nutritious food, as it has to be digested before it can be absorbed. He found it, therefore, much better to introduce it into the intestine, as may readily be accomplished in the following manner:

The patient is directed to add a teaspoonful of salt, two tablespoonfuls of soda and a tablespoonful of sugar of milk to a pint of boiled water, and to pour one-half of this quantity into a clean glass jar, requesting the butcher to add to it one pint of fresh calf's blood. The fluid should be injected at once, or if this is not practicable, the jar should be put upon ice and the contents used within twelve hours. In no case should the fluid be heated, as heating favors coagulation and dissolution of the blood. This quantity should be introduced every night, and in bad cases twice a day, morning and evening. In all cases the bowel should be previously washed out with a simple injection of water. As a rule, to which there are many exceptions, the blood is entirely absorbed, so that often not even a trace of it is found on irrigating the bowel on the following morning.

The injection should be made with the patient lying on the left side. For fifteen minutes thereafter he should lie upon the back, and then go upon the right side for another quarter-hour, so as to favor the distribution of the fluid throughout the colon.

The results obtained by this treatment in one case of pernicious anemia, and in cases of phthisis without fever, were most satisfactory. Patients with a high fever were not benefited. One patient with fever and repeated hemoptyses, had such copious bloody expectoration, that the clysters were abandoned for fear that they might tend to keep up the hemorrhages. There was no change after the discontinuance of the injections, however, and in no case did any ill effects follow their use.

The injections give absolutely no annoyance to the patient, as may well be inferred from their bland character; and they are heartily commended as being far more nutritious than any others yet devised.

Treatment of Hemorrhage in Typhoid Fever.—MCCORMICK (*Penn. Med. Journal*, July, 1898) says that the treatment of hemorrhages in typhoid fever; by the administration of opium, morphin, or the acetate of lead, should be respected for its age rather than for its logic. The effect of the opium is to dry up every secretion from the mouth to the anus, and the reduction of the bile in the intestine leads to decomposition and the formation of gases in the bowel, and to the absorption of poisonous products into the system. Tympanites, always an unfavorable symptom in typhoid fever, is especially undesirable in hemorrhage, which the distension of the ileum will be likely to renew. His practice, therefore, is to give a saline laxative to relieve all tension of the bowel, and to carry off the blood-clots, whose presence in the intestine offers to the bacteria a splendid nutrient medium. In addition he washes out the colon with ice-water. Thus the bowel is cleaned and relaxed, and put at rest, and the patient is given the best chance for recovery.

The Diagnosis of Morphin Addiction.—LETT (*Canada Lancet*, August, 1898) has found that the Bartley method of testing the urine of a patient for the determination of the morphin habit is by no means infallible. This test is as follows:

"Make suspected urine alkaline with carbonate of soda. To this add one-fourth its volume of chloroform or amylic alcohol. Shake well, allow to settle, draw off the chloroform and add a small amount of iodic acid. If morphin be present a violet tinge will be noted."

Lett has known this test to give positive results in a number of instances where there was the very best reason for believing that the persons whose urines were tested had not taken any morphin; and, furthermore, the test sometimes fails in the presence of morphin, as in the case of one patient who was taking nearly 3 grains of the drug daily. A better method is the following:

"Collect about twenty ounces (less will do) of the suspected urine. If it has not an acid reaction acidulate with dilute hydrochloric acid until it reddens blue litmus. Concentrate to about three ounces and let stand in a cool place for twelve hours, and then filter. To the filtrate add sufficient carbonate of sodium to render it alkaline, and let it stand for twelve hours, and then filter and collect the precipitate. Wash this precipitate with distilled water made slightly alkaline by carbonate of sodium and dry it. Digest the dried precipitate with pure alcohol at a gentle heat and filter, evaporating the filtrate to dryness, and dissolving the residue with dilute sulphuric acid. Test for morphin by the iodic-acid or other well-known tests for morphin salts."

By the above method Lett has succeeded in obtaining morphin sulphate from the urines of persons taking very minute amounts of the drug, and has been able to identify the crystals by means of the microscope, when the Bartley test failed.

Apenta Water in Yellow-Fever Cases.—The clerk of the Touro Infirmary, New Orleans, reports that during the recent yellow-fever invasion, Apenta water was used with gratifying success for the purpose of evacuating the bowels. Large quantities of Apenta water are said to have been forwarded through the medical supply depot United States General Hospital to Santiago, Cuba, for similar use in the Army.

THE MEDICAL NEWS.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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Address the Editor: J. RIDDLE GOFFE, M.D.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK.

Subscription Price, including postage in U. S. and Canada.

PER ANNUM IN ADVANCE	$4.00
SINGLE COPIES	.10
WITH THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, PER ANNUM	7.50

Subscriptions may begin at any date. The safest mode of remittance is by bank check or postal money order, drawn to the order of the undersigned. When neither is accessible, remittances may be made, at the risk of the publishers, by forwarding in *registered* letters.

LEA BROTHERS & CO.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK,
AND NOS. 706, 708 & 710 SANSOM ST., PHILADELPHIA.

SATURDAY, AUGUST 27, 1898.

THE MALTREATMENT OF OUR SOLDIERS TO BE THOROUGHLY INVESTIGATED: CONGRESSIONAL INQUIRY DEMANDED

Now that the war is over, we trust that the time has come to avenge the many wrongs put upon our gallant soldiers by those public servants whose cheerful duty it should have been to shield them in every possible way. In view of this sentiment, we hope that the expressed intention of ex-Postmaster Dayton to probe thoroughly the needless neglect of our soldiers will not be words writ upon the sand. He is said to have recently addressed a meeting, called to furnish aid to sick and wounded soldiers, as follows:

We are going to find the men who are responsible for the dreadful conditions that have existed. We are going to get evidence from every available source to determine the responsibility for the outrageous and shameful neglect of sick and wounded soldiers, and for the horrible condition of the transports that carried them away from Cuba. Suffering and death as the result of official incompetency will be investigated on every possible line, and the public will know where the guilt belongs when we have finished.

There will be no protection for the guilty, and neither dignity of official position nor official influence will hide the ones who are responsible. If the responsibility for this wretchedness and suffering belongs to the head of the War Department or to the head of the Administration, or to any other head, it will be known and fixed. We solicit information from every source to aid this work.

The committee appointed to conduct this investigation is headed by Augustus W. Peters, President of the Borough of Manhattan; R. B. Roosevelt, the secretary, will receive all communications. Every soldier who has suffered from neglect may send a detailed statement, accompanied by an affidavit, if possible, to Mr. Roosevelt, at Sayville, L. I., or at No. 33 Wall Street. All who know of such suffering are invited to do the same thing.

This will make a good beginning. The best ending, however, will be a full and comprehensive investigation by Congress of the crimes against our soldiers. Our representatives in Congress are not all heartless and callous politicians. The unseemly attitude assumed by certain of our Washington employees, low as well as high in rank, has been that every wrong against the soldier that has been made public and condemned, has been either a false charge or "an unavoidable circumstance;" also, that these various blunders and sins have been of minor importance as compared with the other great things that have been done, whereas, in the eyes of the public, the vastly important and supremely urgent question has been: "Have our soldiers at the front been fed and protected and cared for in every way and in every emergency as we ourselves would wish to be dealt with if we had been compelled to carry a rifle to Cuba?"

THE DUTIES OF PEACE.

THE cessation of hostilities and the declaration of an armistice has brought relief to strained nerves and anxious hearts. Grim visaged war has smoothed its wrinkled front. The stern alarms of actual battle have ceased, but the time has not come for dallying with the lascivious pleasing of the lute. To the medical and sanitary arm of the service, new problems of gigantic import loom on the Southern horizon. For the present, at least, military governments must be maintained in all the newly acquired territory. Garrisons must be established at many points, and the Augean stables of filth and infection must be cleaned. For the latter, sanitary engineers of the first rank are required, and works commensurate with the objects to be accomplished, and permanent

in character, should be undertaken without delay.

For the medical department of the army, it will suffice to see to it that the location, sanitation, and general healthfulness of the garrisons are assured. It must not be forgotten that for us as a nation, the undertaking is a new one; soldiers accustomed to the bracing air of temperate latitudes must be carefully acclimated to tropical weather with its intense heat, drenching rains, and debilitating humidity in the midst of perennial infectious and contagious diseases. Were we pioneers in this field of work, much would necessarily have to be learned in the bitter school of experience. Fortunately for us, such is not the case. England has been solving this problem in a practical way for more than a century, and to him who will lend an attentive ear has much to teach of life-saving value. It is true that the native energy, dash, and bravery of the American soldier when fresh from his native heath can drive before him any tropical fighting line he may meet. This was demonstrated in the assault upon Santiago and has been repeated at Manila, but the secondary effects are disastrous. He cannot endure exposure to the drenching rains, the baking sun by day, and the damp ground at night; nor can he, with impunity, do the digging, the pack-carrying, the camp making, and the cooking. As was pointed out in a recent editorial in the *Philadelphia Press:* "White men, the English have learned, cannot campaign in the open air during the wet season in the tropics unless they have an army of attendants. The English expedition which went to Abyssinia just thirty years ago under Lord Napier of Magdala, had 16,000 English soldiers and 32,000 native attendants to take care of them. All English tropical expeditions are organized after this fashion. Every regiment has its waterman and its tentmen, its carriers, and its cooks. The fighting man in the tropics must be taken care of. A force of laborers, all tropical, must be hired. Instead of feeding the idle at Santiago on landing, not an able-bodied man among the natives should have been given a ration unless he was willing to work, and strict military discipline should have ended the fatal and inexcusable nonsense of precious Northern fighting material courting fever and inviting death by digging and pack-carrying when idle Cubans were standing around eating United States rations.

"If this course had been followed, while fever would have come, it would not have demoralized and broken the strength and fighting force of brave men as it did at Santiago, and assuredly will at Manila. The prediction is easy to make, for it is based on two centuries of Anglo-Indian experience —the instant General Merritt's force moves from its lines and begins active operations in the field, where the men have to get wet, unless they are provided with a plentiful supply of coolies to fetch and carry and spare the white men, tropical fever will mow a broad swath through the strong ranks and a quarter will never come back.

"These are words of truth and soberness. Every medical man and every man of tropical experience or knowledge, knew that the Santiago campaign was a terrible risk. The nation deliberately matched with fever and death for victory and won in the grim game by overmastering bravery. But for white men, nothing foils tropical fever except close personal care. If a white man in the tropics has to dig and get wet and do common labor, he collapses in all cases and dies in about one-half the instances. Unless there is to be a terrible waste of life, the Anglo-Indian plan of minutely caring for white men in the tropics must be adopted in Cuba. Any other plan is sure to end like the present collapse at Santiago due to climate, doubtless aggravated by faulty staff administration, but primarily due to climate."

AUTO-INTOXICATION, PTOMAIN POISONING, AND AUTOTOXEMIA.

THE term "auto-intoxication" or "auto-infection" is best restricted to those symptoms directly referable to the action of poisonous ptomains. Chemically, ptomains are basic substances formed as a result of *putrefactive* or fermentative processes, such as *tyrotoxicon* in cheese, milk, or ice cream; from fish, *muscarin;* from poisonous mussels, *mytilatoxin.* All micro-organisms capable of giving rise to disease from poisonous ptomains within the system may, and doubtless do, produce the symptoms which are ascribed to the infectious diseases.

Ptomains may have their origin within or without the body. We are, as yet, unacquainted with the effects of those ptomains formed in the normal body by the common colon bacillus and other bacteria

which inhabit the normal intestine. This effect, whatever it may be, is "auto-intoxication."

If we should eat a piece of cheese or pork, or should we drink milk, any one of which has undergone putrefactive changes outside of the body, it could not be properly called auto-intoxication (self-poisoning), but is, in brief, *ptomain poisoning*. On the other hand, "autotoxemia" is best restricted to a diminished or an excessive amount of a normal secretion, or to poisoning by leucomains.

An excessive amount of a normal secretion will produce autotoxemia, as instanced in jaundice and salivation, and a diminished amount of a normal secretion causes autotoxemia, as is the case in myxedema. Most leucomains are wholly inert, while others are violent poisons. Of the poisonous leucomains may be mentioned paraxanthin, methylxanthin, hetroxanthin, xantho-creatinin, and gerontin. Poisonous leucomains are found in the normal secretions and excretions, such as saliva, bile, urine, perspiration, feces, and expired air.

Again, the symptoms of poisoning by ptomains and leucomains differ very widely; in the former, usually developing within the first twenty-four hours, and accompanied by nausea and vomiting, intense pains in the epigastrium, obstinate constipation, subnormal temperature, or only slightly elevated, cold perspiration, and frequently collapse and death.

Autotoxemia develops slowly with manifold symptoms referable to the muscles (as in lumbago); in the central nervous system, as evidenced by despondency, mental hebetude, insomnia, possibly epilepsy, and also in the peripheral nervous system, as observed in hemicrania, neuralgia, and possibly multiple neuritis.

The subject of bacteriology has developed within a few years to a wonderful degree, but its invariable accompaniment, autotoxemia, is still an undeveloped field to be thoroughly explored by those who study internal medicine, and who first gain some insight into the first pathological process in disease.

ECHOES AND NEWS.

Spain's Quarantine against Her Returning Troops.—The Spanish troops returning from Santiago will land at the three ports, Santander, La Coruna, and Vigo. At each of these ports, transports fitted up as hospital ships will be stationed to receive the soldiers afflicted with yellow fever.

Artificial Albumen.—Dr. Lilienfeld announces that he has been able to produce in the laboratory, by certain chemical combinations, a synthetic substance which responds to every test of albumen, and has named it artificial albumen. Whether or not this substance has the nutritive qualities of natural albumen has not yet been determined. It is announced that researches to establish this point are proceeding.

The American Microscopic Society.—The twenty-first annual meeting of this society will be held in Syracuse, N. Y., August 30, 31, and September 1, 1898. The sessions will be held in the Syracuse University Medical College, where every facility of rooms and apparatus will be put at the disposal of the Society. An interesting program, both scientific and social has been arranged. There will be reduced rates upon the railroads from any station in New York.

The Water-supply of Cities.—The average daily water-supply, as given by the New York *Sun*, of some of the large cities of the world is as follows: London, 175,000,000 gallons; Paris, 100,000,000 gallons; New York, 290,000,000 gallons; Baltimore, 70,000,000; Boston, 60,000,000 gallons; St. Louis, 55,000,000 gallons; San Francisco, 25,000,000 gallons; New Orleans, 18,000,000 gallons. There are now in New York 50,000 water-meters, and the city collects $5,000,000 per year for its water tax.

The Degree of "Doctor of Hygiene" in Great Britain.—The following colleges and universities of Great Britain hold examinations and grant diplomas in public health: London University, Cambridge University, University of Oxford, University of Durham, Victoria University, Royal College of Physicians of London, Royal College of Surgeons of England, Edinburgh University, Glasgow University, University of Aberdeen, Royal College of Surgeons of Edinburgh, Royal University of Ireland, University of Dublin, Royal College of Physicians, and Royal College of Surgeons, Ireland.—*The Health Magazine.*

General Sternberg Demands Investigation.—Surgeon-General Sternberg has written a letter to the Secretary of War formally asking for a Court of Inquiry to investigate the charges of neglect and incompetency which inflicted so much suffering upon our soldiers in Cuba. It is thought that this request of the Surgeon-General will overcome the disinclination of the President and Secretary of War to re-open at this time the controversy between the various departments. Lieutenant-Colonel Pope, chief surgeon of the Fifth Army Corps during the greater part of the campaign of Santiago, has been ordered to Washington to report to the Surgeon-General.

He Could Not Be Turned.—A patient in an English insane asylum imagined himself dead, and nothing could drive the delusion from his brain. One day the physician had a happy thought, and said to him: "Did you ever see dead man bleed?" "No," he replied. "Did you ever hear of a dead man bleeding?" "No." "Well,

if you will permit me, I will try an experiment with you, and see if you bleed or not." The patient gave his consent, the doctor whipped out his scalpel and drew a little blood. "There," he said, "you see that you bleed; that proves you are not dead." "Not at all," the patient instantly replied; "that proves that dead men can bleed." —*New York Tribune.*

Typhoid Fever at Montauk Point.—It has been decided by the Surgeon-General of the Army to transfer all typhoid-fever cases immediately upon their appearance to city hospitals. Not only can the cold-bath treatment be more consistently carried out in this way, but the sanitation of the camp can be more thoroughly maintained. Up to the present time all the cases have been transferred to the hospitals at New Haven, Conn. In accordance with this decision the ambulance ship "Relief" from Porto Rico with 248 sick and wounded, 154 of whom were typhoid-fever cases, went direct to Brooklyn and distributed her pitiful cargo among the hospitals of that borough. All these typhoid cases developed on the transports during the voyage to Porto Rico so very soon after landing showing that the infection was acquired at the home camps. The death-rate has been about double the average mortality of this disease.

Fate of the Antivaccination Bill in Parliament.—A correspondent of the MEDICAL NEWS, writing from London under date of August 10th, says: "It has been possible by coming here to follow the fate in Parliament of the Antivaccination Bill, so roundly denounced by Sir Thomas Grainger Stewart in his opening address to the British Medical Association. As at first reported to the Commons, it did not contain the objectionable "conscientious-objector" clause referred in my first letter. This permits any man swearing to his convictions before two magistrates to escape vaccination in himself and his family. It was attached, however, and the bill went to the Lords, who made a fierce fight against the clause, and defeated it by a majority of two, in spite of Lord Salisbury's strenuous plea and Lord Lister's astounding support. Back it went to the Commons, which refused to consider an amendment, and it was finally passed by dint of "packing" the Upper House, and now only awaits the royal signature, which, of course, it will have. The Lords have been roundly abused by both lay and medical press, but their stand was a weak-kneed bluff which the Government soon called. So England goes back thirty years on this point, and it will not be long before we hear of a new Gloucester epidemic, when the whole country quarantined against the town."

Suffering on Board Hospital Ships.—The intense interest of the whole country is still fixed upon the abuses and neglect attending the ambulance ships which brought the sick and wounded from Cuba. Dr. Victor C. Vaughan, who was the surgeon in charge of the Transport "Seguranca," which brought 331 sick and wounded soldiers from Siboney to Tampa, and thence to New York, declares that his experience leads him to believe that a great deal of the distress and suffering which was found upon the earlier transports, was due to the greed of the ships' captains and stewards. He believes that every transport that left Siboney had on board plenty of good food, but it belonged to the transport, and not to the Commissary Department. It was, therefore, served only to those passengers who could pay for it. Dr. Vaughan narrates that he went to the steward of the "Seguranca" and asked him for food for the men. "Not a cracker shall you have," responded the unpatriotic steward. Dr. Vaughan, therefore, took the keys away from the steward and gave them to another officer with instructions to supply the men with whatever they needed out of the ship's storeroom. He instructed the commissary to keep account of the stores used and to pay for the same at a fair valuation. Had the surgeons in charge of transports known that they had this authority, and exercised it, their passengers might have been provided equally as well as those of the "Seguranca."

Improved Ambulance System in the Borough of Brooklyn.—A member of the Department of Health explains, as follows, the present status of the Brooklyn ambulances: "In the old city of New York the Department of Charities has had full control since 1870 of public ambulances, while in old Brooklyn the Department of Health had the power. The Corporation Counsel was asked for an opinion, which was given in May, 1898, to the effect that, according to Section 1168 of the Greater New York Charter, it devolved on the Department of Health. Then the Board of Estimate was asked for an appropriation, and it immediately gave an amount equal to the emergency. The Long Island College, Brooklyn Homeopathic, St. Catherine's, Eastern District, St. Mary's, St. John's, Methodist Episcopal, and Norwegian hospitals, at which ambulances were previously stationed, were allowed, commencing July 1st, an appropriation, and the Department of Health also included in addition to the above an appropriation for an emergency ambulance at the Kings County Hospital. At Coney Island one is maintained by the department during the summer months, and if a hospital were located in that section the ambulance-service would be maintained during the entire year. The service, as far as calls are concerned, is placed, as formerly, in the hands of the Police Department. The borough is to-day fully covered by eleven ambulances, and all accidents are attended to. In the event of any ambulances being out of their own districts, the nearest ambulance to that district will respond to any call from the uncovered district."

Alleged Increase of Hydrophobia in Egypt.—According to the London *Lancet* for July 23d, in the early days of the British occupation there were thousands of pariah dogs in Cairo, and it used to be said on all sides that rabies was unknown, but in 1886 a fox terrier at Abbassiyeh belonging to a British soldier broke the record by being the first case. Since that time, every year cases among human beings or among dogs have been reported and verified. Besides many doubtful cases the whole number up to last month comprises 36 dogs, 2 wolves, 3 horses, 2 mules, and 60 human beings, all fatal, scattered over

Egypt. Since 1893, several bitten people have gone to Paris or to Athens to be treated, and this year already 9 persons out of 15 bitten have gone to the Athens Institute. These figures are enough to show that preventive measures are required. Though there are no medical accounts of rabies in times past there are plenty of supposed cures which make it appear as if the disease were well known. Papyri contain mention of the dangers of a bite from serpent, crocodile, or dog. Charms were sold in old days to protect from these three, and there is a folk-lore story in which the wicked fairy condemned the heir at his birth to be killed by one of these three biting creatures. He destroyed a serpent which attacked him, and he and his favorite hound killed a crocodile, but the master died in consequence of an accidental bite from the dog during the fight. The modern treatment for a person bitten by a presumably mad dog in Upper Egypt is to kill the dog, extract the spinal cord, bruise the cord with pestle and mortar until a paste is made, and then to rub the patient's body with the paste. Sometimes, too, they burn the dog's hair and apply the ashes to the bite. The Bedouin make the patient eat the raw liver of the dog, and this is done, too, in the Haussa State of the Western Soudan. In Lower Egypt the favorite remedy has been acquired from the Syrians of Mount Lebanon. It is the Mylabris punctata, a dark-blue beetle used instead of cantharides, and well known in the south of France and Spain.

Service of the Pasteur Institute at Rio de Janeiro.—From April 9th, the date on which in Brazil the prophylactic treatment against hydrophobia was commenced, up to June 30, 1898, 4068 persons have applied for the assistance of the Pasteur Institute, here existing under the direction of Professor Dr. Ferreira dos Santos. Of that number, 2695 persons have been treated, 172 last year. Treatment has been refused to the persons bitten when it was discovered that the animals were not suffering from lyssa. In two instances it was subsequently discovered that persons rejected on the plea of not having been bitten by rabid animals had actually been so bitten, having shown symptoms of hydrophobia. Three other patient were rejected because they had already been attacked by lyssa when they applied for prophylactic vaccinations. Of the 2695 persons treated, 1935 had been bitten on uncovered parts of the body, and 760 through the clothing. Application was made in 10 instances by employees of the Institute on account of accidents occurring during experiments with animals; in three instances sores, resulting from other causes, have been contaminated by contact with the saliva of affected persons, and in two instances the patients have been bitten by persons suffering from hydrophobia. As for the rest, the wounds were caused in 2383 instances by dogs, in 287 instances by cats, in two instances by mules, in one by a cow, in two instances by asses, in one by a horse, and in four instances by monkeys, In 237 animals the existence of rabies was shown by the experiments; 1196 animals showed undoubted symptoms, and 1292 animals highly suspicious symptoms of the disease. The number of persons who did not await the termination of the treatment, and that of those in whose cases it was discovered that the animals by which they had been bitten were not suffering from rabies was 99. Among those included in the former class there were three who are known to have been taken with hydrophobia after leaving the Institute. In six cases of patients under treatment the lyssa made its appearance before termination of the treatment. During the treatment five patients died of other diseases. Of the 2585 persons treated, twenty died from hydrophobia, the mortality resulting from this disease being consequently .77 per cent. In these twenty cases hydrophobia appeared in nine instances within fifteen days after the treatment had been completed. Before the announcement of Pasteur's discovery the mortality from rabies, according to Leblanc, had been sixteen per cent. One thousand five hundred and forty-five persons treated were residents of the city of Rio de Janeiro; the others came from different parts of Brazil.—W. HAVELBURG, M.D., Acting Sanitary Inspector U. S. M. H. S.

CORRESPONDENCE.

THE INCOMPETENCY OF THE WAR DEPARTMENT.

To the Editor of the MEDICAL NEWS.

DEAR SIR: The bungling mismanagement and inefficient supervision of the office of the Secretary of War in the transportation of the Army of the United States to Santiago, Cuba, the promiscuous appointment of political loggerheads to staffs in the commissary and quartermaster departments, the mismanagement and delay in transporting the necessary field-hospital requisitions which necessitated so much horrible suffering of the wounded of our army after the battles at Siboney and Santiago, and the utter neglect to supply our worthy and courageous soldiers (for two days) with even a bite of food, together with the last and most horrible cruelty meted to the suffering wounded in overcrowding the returning transports with sick and wounded, and the neglect to furnish the necessary medical supplies for the relief of their sufferings, as stated by your correspondent in the MEDICAL NEWS of August 6th, calls for more than mere comment and investigation as per your editorial in same issue. Such inhumanity calls for more than a protest. I believe all medical men who read said article will rise united as one man and demand that a more capable officer should be at the head of the office of the War Department of these United States. I believe that to do our duty we should at least petition to our most capable Chief Magistrate, the President of the United States, requesting the resignation of the present incapable incumbent of the office of the War Department. In doing this I believe we express the sentiment of the whole people. I would further request that every medical journal take this matter to issue, and spread it broadcast that other nations may not judge the people of these United States wrongly. Very sincerely yours,

W. H. DUKEMAN, M.D.

LOS ANGELES, CAL., August 11, 1898.

OUR FOREIGN LETTER.

[From Our Special Correspondent.]

AN OLD MEDICAL JOURNAL—VIRCHOW'S MEDICAL REFORM AND SOME NEW ONES—PROFESSOR WALDEYER ON SEXUAL DIFFERENCES IN FETAL BRAINS—NO POLISH SCIENTIFIC CONGRESS TO BE HELD AT POSEN THIS YEAR—THE MEETING IN 1900 AT CRACOW—VIRCHOW ON SYPHILITIC LESIONS OF THE INTESTINES AND SO-CALLED SYPHILITIC ULCERATIONS OF THE RECTUM.

BERLIN, August 16, 1898.

JUST fifty years ago last month Virchow and Leubuscher began the publication of a weekly medical journal, *Medicinal Reform*, which though it lasted but a year, represents a landmark in modern medicine. It was the stormy times of '48, and the spirit of revolution was abroad. More than one European monarch had gone down before that contagious spirit of uprising that spread over Europe, as never epidemic had spread before. German thinkers were aroused, German politicians were at work on a scheme of union for Germany. German philosophers were theorizing in charmingly impractical fashion on the rights of man and reform. Reform was in the air. Virchow established the journal for the purpose of uniting medical men in a scheme for the reform of the laws regulating their positions as doctors. A good deal was accomplished; much was still wanting, but the time was not ripe. Some of the abuses that were then pointed out in the laws relating to physicians still exist, and are the subjects of negotiation between the medical societies and the authorities to-day.

After awhile came Virchow's call to Wurzburg, and with that the stoppage of the journal. Many of the earlier numbers was written by him personally, and nothing better on such subjects as the government's duty in the matter of public health has been written down to our own day. The duties of the government in the matter are stated with a clearness and precision all the more surprising, as the subject was a comparatively new one, in the extent to which Virchow would apply its principles, that they are to-day generally accepted opinions. One of the contributors to the early numbers was Traube, and the subject was the "Advantages and Disadvantages of Special Clinics." A view of another knotty problem is this, to which very little could be added in our day, though the subject has become a very vitally interesting one for us.

One of Leubuscher's articles at the beginning of the volume was on "Medicinal Pfuscherie" (Medical Quackery). Another of Traube's articles is "Shall the Directors of Hospitals and Clinical Teachers Be Allowed Only a Consultation Practice?" questions which would be of interest in our day, and which much more ambitious weekly journals than this little one (whose first number consisted of four quarto pages containing one advertisement), would be very ready to receive into their columns.

It is a little discouraging to think that the great advances of the last fifty years have carried us not much farther toward the solution of these great questions of medical rights and privileges than medical men were then. Virchow's appeal for union and cooperation in the common cause would be as opportune almost to-day as it was in that transition period of '48. Virchow reminded the doctors of that period that it availed nothing to belong to a great profession, if the rights and privileges of that profession were not upheld by the concerted action of its members. *Paullum sepultæ distat inertiæ celata virtus.* Merit hidden under a bushel, might as well be helpless inactivity.

July, as the mid-year, has seen the first appearance of a number of brand new German medical journals, of which the most prominent are the *Journal of Dietetics*, of which Professors Von Leyden and Goldscherder of Berlin are the editors, and *Beiträge für Geburtshilfe und Gynækologie*, of which Professor Hegar of Freidburg is the editor. Two new journals are announced to appear later, a *Jahresbericht in der Gebiete der Neurologie*, to be issued in January next with Professor Mendel of Berlin as editor, and a *Vierteljährschrift für Kriminal Anthropologie und Kriminalistik* with Dr. Hans Gross of Leipzig as editor, and a number of prominent criminal anthropologists as collaborators. This last journal takes the place of the one that I mentioned some time ago in these columns, as having ceased publication because its editor had been giving his distinguished collaborators some practical lessons in criminal anthropology. He is at present enjoying unrivalled opportunities to study criminalistics in one of the large German prisons at the expense of the State, the conviction having been for swindling. His collaborators gained some unique experience in practical dealing with ingenious criminals. That he was something of a genius may be gathered from the fact that he should have recognized a new field in German medical journalism (not an easy thing in the present crowding of the medical printing world) which others find it expedient to occupy, now that his enforced retirement (for reasons of State) leaves the opportunity open.

Professor Waldeyer presented at a recent meeting of the Berlin Anthropological Society two pairs of fetal brains in which the conditions as to weight and age were so alike that some conclusion as to the absolute comparison between the development of the brains of the different sexes seemed to be justified. In the first pair the male fetus was .264 meters long, weighed 362 grams and the brain weighed 32 grams. The female was .256 meters in length, weighed 850 grams and the brain weighed 30 grams. In the second pair the male fetus was .400 meters long, weight 1185 grams, brain weight 175 grams; female .400 meters long, weight 1188 grams, brain weight 165 grams.

Professor Waldeyer has reported somewhat similar conditions before, and though the number of observations so far made are scarcely sufficient to justify a definite conclusion, yet he considers them to have certain manifest indications as to the comparative brain value of the two sexes at a time when education and training has not yet come in to vitiate conclusions. With fetuses practically the same size and weight there is distinctly more brain substance in the male than the female. This

is very striking in the second case where the female fetus is actually slightly heavier, and where, besides, the brain convolutions were somewhat farther developed than in the male. Professor Waldeyer asks for the sending of fetal brains or the careful observation of them by others in this direction, as of course the opportunities for such observations are extremely rare.

As the prohibition by the Prussian police department of the attendance of foreigners at the Polish Congress of Naturalists and Medical men would have made serious lacunæ in the program of the congress, it was decided not to hold it at all this year, as I mentioned in my last letter. The next meeting will be held at Cracow in 1900, during the fêtes in honor of the five-hundredth anniversary of the foundation of the University of Cracow. For the moment the Prussian Government has secured its object and prevented the assemblage of the Slavs in Germany. Whether this interference with a scientific congress will not have a greater effect on reactionary Slavish sentiment than anything the proceedings of the congress might have been able to effect remains to be seen.

Meantime there is as good as an official announcement of the fact that the United Slavs, Czechs, Poles, and Russians are going to make the meeting in 1900 memorable. They have, of course, an inspiring occasion, the half-millennial celebration of one of the oldest universities in Europe, whose fame was at one time world wide. No pains are to be spared to show the world what the Slavs have accomplished in the past, and despite unfavorable conditions, are accomplishing at present, in science and the arts of education.

Professor Virchow has been lecturing on the pathology of the intestines on Saturday during the semester, and at one of the final lectures of the year came to the subject of syphilitic lesions. His main attention was directed to the series of lesions ulcerative in character and leading to stricture of the rectum, which are usually set down as syphilitic in origin. Some few of these, he thinks, may be caused by syphilis, since they have most of the pathological characters of the disease, but most of those usually pronounced syphilitic clinically and even on the post-mortem table are not, but are due to an obscure pathological process or series of processes, whose explanation will constitute a distinct advance in the pathology of the intestines.

Notwithstanding his immense experience with post-mortem specimens Virchow has never seen a gumma (or rather, as he insists gummi, since there is no such Greek word as gumma) of the intestines. He does not, therefore, deny that gummata of the intestine occur, but thinks they must be extremely rare. It would be in a gummatous process that these ulcerative strictures of the rectum would occur if they were really syphilitic, but they are entirely too frequent for that. Besides their almost exclusive limitation to women point to the fact that there is something more than a syphilitic process at work. This opinion that these so-called syphilitic strictures are not such is gaining ground. Professor Wölfler, at Prague, thinks that the number of them attributed to syphilis is far above what it should be, and Professor König, here at Berlin, says that to his mind they are due to a mixed infection after gonorrhea of the rectum, occurring so frequently in women because gonorrheal secretion finds its way so easily over the perineum to infect the mucous membrane at the anus.

SOCIETY PROCEEDINGS.

BRITISH MEDICAL ASSOCIATION.

Sixty-sixth Annual Meeting, Held at Edinburgh, July 26, 27, 28, and 29, 1898.

[Specially Reported for the MEDICAL NEWS.]

(Continued from page 255.)

SECTION ON SURGERY.

SECOND DAY—JULY 28TH.

DR. DAVID NEWMAN of Glasgow opened the subject of the treatment of

SEPTIC INFECTION OF THE URINARY TRACT,

confining his remarks to the kidney. Renal sepsis may arise from the blood- or lymph-streams or there may be "acute septic nephritis without suppuration," infection taking place usually from the ureter. The bladder is not easily rendered septic but once infected, the distribution of the lymph-supply spreading to the kidney is not difficult, and may occur without the intermediary of the ureter. The chief point in treatment is prophylaxis.

DR. ROVING of Copenhagen stated that two groups of bacteria affect the passages, those which decompose urea, pus-cocci, other diplococci, and bacilli, some non-pathogenetic, and those which do not decompose urea, such as the bacillus coli. In bacteruria with no cystitis, the bacillus coli occurs; when cystitis appears, it is due to the first class, staphylococci. Prevention is the chief safeguard. DR. MELCHIOR of Copenhagen read a report of fifty cases of infection in which the colon bacillus was by far the most frequent microbe found. In most cases it is introduced by instruments. MR. BRUCE CLARK held that there must be an abrasion of the mucous membrane in order to permit entrance of bacteria. Cocci first appear and these are later replaced by the bacillus coli.

DR. MELCHIOR reported the case of a girl on whom he operated for a large sarcoma of the neck. Finding it impossible to remove the growth, he used repeated applications of electrolysis (500 milliamperes for 5 minutes under anesthesia). The whole growth sloughed away and had not returned.

THIRD DAY—JULY 29TH.

DR. ROVSING of Copenhagen opened the proceedings with a paper on

OBSCURE HEMORRHAGE FROM THE KIDNEY AND ITS TREATMENT BY NEPHROTOMY.

He began with a description of several cases of bleeding from one kidney as shown by the cystoscope, for which there was no assignable reason. In two of them the bacillus coli was found in the urine, but the speaker thought this organism held no etiological relationship to

the diseased condition. It is possible that displacement of the kidney may have had something to do with the bleeding by reason of venous engorgement. In two of his cases he practised nephrotomy with good results so far as cessation of hemorrhage was concerned.

MR. PARRY of Glasgow in speaking of

SPASMODIC TORTICOLLIS

described three cases in which the deformity was persistent and due to spasm of the muscles, not their permanent contraction. He cured all the patients by resecting a portion of the spinal accessory nerve on one side and severing the cervical plexus on the other, thus removing the spasm of one sternomastoid and the opposite occipital muscle. No paralysis resulted.

MR. NOBLE SMITH of London had treated sixteen cases in this way and regarded the operation as well established, but DR. KOCHER of Berne said that he had often seen recurrence. He now divides the sternomastoid on one side and the occipital muscles on the other.

MR. JONATHAN HUTCHINSON, JR., of London gave an account of a case of

TRIGEMINAL NEURALGIA TREATED BY REMOVAL OF THE GASSERIAN GANGLION.

There are two routes of approach to the ganglion: (1) By resecting temporarily the zygomatic arch and trephining about the foramen ovale; (2) by trephining the squamous plate and lifting the temporal lobe without injuring the dura. It is not necessary to ligate the middle meningeal artery. The temporal route is the operation of choice since it is attended by less risk and less deformity.

MR. ROBSON of Leeds preferred the second method, thinking a beneficial effect may be secured by forcible stretching of the third branch of the trigeminus.

DR. BRUCE of Dingwall, in speaking of

SCIATICA,

claimed that it is always due to disease of the hip-joint, occurring especially in those with uric-acid diathesis. His treatment is directed along this line.

DR. KENNEDY of Glasgow presented notes of cases of

TRAUMATIC MUSCULOSPIRAL PARALYSIS FOLLOWING FRACTURE OF THE HUMERUS.

Improvement ensued in every case after freeing the nerve. Delayed return of muscular power in certain instances may be attributed to the muscles rather than the nerves.

MR. MUIRHEAD LITTLE, treating of

COXA VARA,

described two varieties, one in children caused by rickets and the other in young persons produced by carrying heavy weights. The X-rays are of material assistance in making a diagnosis. The best treatment is subtrochanteric osteotomy.

The paper by ADAMI of Montreal on the

BACTERIOLOGY OF PROGRESSIVE CIRRHOSIS,

deserves a more extended notice than was given in a previous letter. In it, he says that in a large number of cases of the disease in man there may be found largely within the liver-cells, and in the lymph-spaces in the new formed connective tissue a peculiar, minute form of micro-organism presenting on proper staining the form of diplococcus surrounded by a faint halo; on deeply staining a rather obscure ovoid body little distinguishable from tissue detritus. In infective cirrhosis in cattle, the same organism is present in the tissues and shows the same staining characters. He has, moreover, been able to isolate the organism from the liver, bile, and lymph-glands of at least thirty infected cattle, and it is polymorphous, appearing as a small diplococcus when grown on broth, and as a distinctly bacillary form on solid media. The organism is pathogenic for laboratory animals, and in them is seen in the hepatic cells and elsewhere. In a case of atrophic cirrhosis in man he has been able to isolate from different organs a micro-organism with similar cultural characteristics. This discovery, if confirmed, as the author says, put a new phase on the study of hepatic cirrhosis. We get satisfactory explanations of the splenic enlargement and the frequent right-sided pleurisy, and we may be on a fair road to explain why ascites occurs in one case and in another, jaundice, depending on whether the organism sets up a peritonitis or attacks the bile-ducts and liver-cells. Adami does not believe that it causes cirrhosis only; it may be found to excite other disturbances in the liver and elsewhere, indeed to be capable of setting up a septicemic condition.

SECTION ON MEDICINE.

SECOND DAY—JULY 28TH.

Consideration of the

OPEN-AIR TREATMENT OF PHTHISIS

was continued from the Wednesday to the Thursday session on account of the inadequacy of the discussion. Following DR. DAVIDSON'S paper upon

SOUTHERN CALIFORNIA

as a resort for consumptives, the subject was taken up by DR. CALDWELL of Belfast who thought this treatment might be both preventive and curative. The former is not sufficiently practised. There is no specific drug, but the open-air method, if carried out, produces good results unless the cases at the outset have advanced too far. The treatment, which must be thoroughly carried out or not at all and away from friends, consists of continuously living in the open air, day and night, great attention to diet and exercise regulated to the patient's physical powers. DR. GUILLEMARD stated that the winter climate in the uplands of South Africa is perfect and treatment very satisfactory. DR. SIDNEY JONES of New South Wales confirmed these assertions and called attention to the fact that both in Australia and Africa, the climate varies greatly in different parts and must be considered in the choice of locations. DR. THORNE of London recited the case of a woman advanced in phthisis who, unable to go abroad, took the treatment as far as possible in the gardens of the metropolis and recovered. Other similar experiences were reported.

SIR WILLIAM BROADBENT in opening the question of the

SIGNIFICANCE AND CONSEQUENCES OF DIFFERENT STATES OF VASCULAR TENSION, WITH THEIR MANAGEMENT

limited his remarks to arterial tension. Vascular tension depends upon the force and quantity of blood delivered at each systole and on peripheral resistance. The pulse is the guide and four points should be noted regarding it: (1) the size of the vessel; (2) its states between beats; (3) the character of the rise of each stroke, and (4) the force required to obliterate it. Low tension is often found in long-lived persons, but it is found in fever and may be the cause of lessened nutrition. It is associated with debility, neurasthenia, and often with epilepsy. High tension often runs in families and may be seen in young persons. Among its effects are hypertrophy and dilatation of the heart, thickening and atheroma of the aorta and valves. Variations of vascular pressure are of universal application in all forms of disease and furnish important therapeutic indications, *e.g.*, the blue pill in neurasthenia with high tension. Convulsions occur in many high-pressure states, but they are not necessarily the result of the tension, as in uremia. In epilepsy when the tension is low the prognosis is less favorable. As regards Cheyne-Stokes' respiration it always occurs with high tension.

When instituting treatment, the essential origin must be learned. In low tension it may be some vice of nutrition, digestive derangement or absence of glandular secretion, especially the suprarenal. The most useful drugs are eliminatives, digitalis, and caffein. In high tension, the chief cause is toxemia. Diaphoretics, baths, exercise, diuretics, and purgatives are indicated and most importance is attached to mercury, the old contraindication in uremia being now exploded.

Professor Bradbury of Cambridge said that treatment of low tension is treatment of its cause, which is found outside the vessels; palpitation of nervous origin is the chief symptom. High tension is dependent on vascular or cardiac conditions, and is important in its causal relations to disease. Poisons, syphilis, gout, lead, cause contraction and produce the pressure. Much may be done to alleviate the condition; in fact, improvement may always be looked for. The essential object is elimination of toxic substances and prevention of their reaccumulation. Potassium iodid and purgatives are useful but not in emergency when vasodilators, nitroglycerin, amyl nitrate, erythrol, tetranitrate may be used.

Dr. Savill drew attention to an important sequence of high tension, *viz.*, arterial thickening, which he calls "arterial hypermyotrophy." He found it in fourteen per cent. of necropsies. The change is a true hypertrophy but may be accompanied by pathological alterations. Dr. Haig thought the time had come when the right name should be given to the toxin of high tension. It is uric acid.

Dr. Drummond of Newcastle read a paper on

ETHER PNEUMONIA,

in which he said that cases of death after operation are often attributed to sepsis when they were really due to this condition. He narrated a fatal case, necropsy showing engorgement and edema of the lung. Pulmonary disease predisposes and it is especially apt to occur after abdominal operations.

Section on Diseases of Children.

First Day—July 27th.

Dr. Joseph Bell of Edinburgh, President of the Section, opened the proceedings with some preliminary remarks, welcoming the members of the section to Edinburgh. In a general way he deprecated the too general custom of sending sick children into hospitals to the exclusion of home-treatment. The very poor who have dirty homes and who starve their children, may have a sort of reason when they bring their children to light, water, and food; but the great middle class should be reminded of their responsibilities. A large number of operations which crowd the hospital work should be done at home. Mastoid cases, tuberculous glands and joints, radical cures of hernia, phimosis, need not be taken to hospitals for proper treatment. If the child cannot be made aseptic in a decent home, the surgeon is not up to his work.

A discussion upon the

TREATMENT OF SPINAL CARIES

was opened by Dr. Victor Horsley. The author devoted his paper more especially to the subject of tuberculous osteitis as a cause of deformity, and its treatment. Early operation is indicated in these cases. The diseased bone should be freely removed and free drainage insured by laminectomy and, when necessary, removal of the pedicles. This must be followed by temporary fixation to prevent deformity. This is secured by elastic extension. Dr. Robert Jones of Liverpool deprecated too early operation. Elastic extension when strong enough to extend the spine is, as a rule, intolerable to children. Early cases can be effectively treated by placing them in a recumbent posture with the back in lordosis, the spine being supported in this position and the hips resting comfortably. The lordosis must be maintained to a certain degree by apparatus when the patient assumes the upright posture. He reported ninety-four cases of immediate reduction. Dr. Murray of Liverpool opposed the immediate reduction of deformity in these cases. Application of that treatment in fourteen cases had been unsuccessful, deformity recurring in all. Dr. Tubby of London reported thirty cases in which immediate reduction of deformity had been applied by him with the result that four spines had been permanently straightened and the majority of the other cases greatly improved. Dr. Noble Smith of London disapproved of taking away the pedicle and laminæ which, in these cases, were frequently the only sound parts of the vertebræ, but thought it advisable to remove diseased bone when it could be easily reached. Dr. Churchill of London and Dr. Luckham of Salisbury advocated expectant treatment and good hygiene. The remainder of the session was spent in the discussion of surgical subjects as follows: The treatment of club-foot, hare-lip, cleft palate, dislocation of the hip-joint, occurring in the course of infectious diseases, and the clearing out of the mastoid antrum in infants and young children.

SECOND DAY—JULY 28TH.

MR. JONATHAN HUTCHINSON opened the discussion on

CERTAIN ASPECTS OF CONGENITAL SYPHILIS.

He discussed certain late manifestations, especially lesions of the bones and organs of special sense, and insisted that these were very rare after the age of twenty. The diagnosis of these cases involves great difficulty. The usual routine drug treatment of the disease in infants is useless. DR. H. ASHBY of Manchester discussed certain cases of doubtful character, involving lesions of the brain and other internal organs. Such cases were those of certain forms of anemia, enlarged spleen, hydrocephalus, and other conditions affecting the nervous system.

THIRD DAY—JULY 29TH.

DR. D. B. LEES of London opened the discussion on

RHEUMATIC HEART DISEASE IN CHILDREN.

The great mortality of this disease among children is in striking contrast to the same condition in adults. Dilatation is usually present in subacute, first attacks, even when pyrexia is slight and arthritis is not present. Effusion into the pericardium and endocarditis are not usually the causes of fatality. Indeed, these conditions seem to affect the mortality very little. Plastic pericarditis and dilatation, however, play a very important part in the fatal results. DR. OSLER of Baltimore, continuing the discussion, thought it very important to guard against repeated attacks of rheumatism. DR. EWART of London showed diagrams illustrating the point that in dilatation fluid was always present and emphasized the importance, from a diagnostic standpoint, of spinal dulness.

SECTION ON PSYCHOLOGY.

FIRST DAY—JULY 27TH.

The President, DR. T. S. CLOUSTON, opened the proceedings with an address on

NEUROSES AND PSYCHOSES OF DECADENCE.

A large number of the neuroses of decadence may be looked upon as premature senility and nervous death before its allotted time. Man's normal average life may be divided into three periods of twenty-five years each. During the first quarter of the century his body is growing and his functions maturing, the last organ to attain psychological perfection being the brain. During the second period, the fullest muscular action and the highest resistive power against disease, and the most reliable and intense mentalization are found. During the last period, a slow process of retrogression and decay sets in and goes on until the psychologic ending of death is reached. As during development one organ or function may lag behind its normal maturation time in reaching perfection, thus constituting a neurosis from unrelational development, so during decadence premature decay in individual organs and functions may occur, constituting neuroses through unrelational decadence. One man's trophic energy fails at fifty-five. He then loses three stone of flesh and falls a victim to the first severe bronchial catarrh that attacks him. The cardiac innervation of another fails at sixty and influenza cuts him off. The memory of another quite gives way at sixty-six, while another loses original volitional power at seventy, so that he cannot manage the simplest business.

The cessation of the great reproductive energy at the climacteric period in both sexes is attended by such frequent nervous and mental disturbances that in their lesser degrees they are commonly regarded as normal rather than abnormal in their character. During the barren period which follows the climacteric, which is a period of decadence, the human animal becomes subject to many diseases and defects that are incidental to this period. The last epoch of all, that of vascular disease, nerve-cell, and fiber degeneration, is one necessarily attended by many neuroses and psychoses. Then it is that senile endarteritis, fatty vessels, atrophies, softenings, and senile diminution come on.

The life history of the neuron and the sheathed nerve-fiber in their stages of growth, development, and decadence, histologically and functionally, has yet to be written. The very important part of such life history would be the account of the degrees of their reaction to different stimuli and susceptibility and power of resistance to the causes of different kinds of diseases at different ages and under different conditions. The effects of stimuli, and of poison, on the nutrition as well as on the kinesia of nerve-cells are certainly different at different ages of life. Sudden loud noises, or the excess of oxygen carried by blood at temperatures over 100 degrees, send many young children into convulsions but will have no effect upon boys of ten. The pychoses we lump together under the name of delirium, which is easily produced in childhood by temperature or by nerve-toxins circulating in the blood, but it is not so readily produced in the later period of life by the same causes. On the other hand, the nerve degenerations and more severe disturbances of function are far more apt to be set up in the senile periods of life by alcohol and other nerve-toxins than in early life. Such changes of structure or of function as occur in the natural growth, development or decadence of the neuron or sheathed nerve-fiber, cannot properly be maintained as disease. The imperfect observation, attention, and reasoning of the child of three is no psychosis any more than its difficult equilibration at eighteen months is a motor neurosis. So the weakened memory and the lessened force, origination, and volition of the man of eighty is no psychosis, nor do his less firm grip of the ground and his uncrisp articulation constitute motor nervous diseases. The wondrous and mysterious process of innate progression of structure and function whereby the neuron gradually acquires the capacity of exhibiting the energies we call coordinated motion, sensation, and mentalization, certainly depends on a hereditary potentiality within it together with favorable conditions of environment. If this potentiality is in any way faulty, we know that the organism is apt to suffer from the developmental neuroses in various forms. The process of decadence also implies a potentiality to be carried out in natural and physiologic fashion.

Though bad heredity does not come in so powerfully in decadence as at development, it does operate in some cases and thereby brings on decadence or disease before its time. Operate it must, for all the recent investigations into the conditions that conduce toward centenarianism and prolonged life point to heredity as being by far the most powerful cause. The answer to the question, How to live long? seems to be, Have an ancestry that did so; but I think heredity operates in a different way in decadence from what it does during development. In the one case, it is the sword that smites the potentially unfit and so stops the reproduction of the bad stock; it is Nature's chief means of weeding out the organisms that do not make the physiologic ideal she sets up in all species; it is then an actively destructive force, but in the period of decadence bad heredity is more like the weakening of the supports and roots that keep a full-grown tree from being blown over by the storms to which it is exposed from without. A tree in a sheltered spot, though spindly and not well rooted, may live long, so a man with a nervous heredity, if he has come safely through childhood and adolescence, may, with care and obedience to Nature's laws, live to a good old age; but if he drinks too much, or carries with him an old syphilis gland, or has to work too hard, or has occasion to worry much, he has not the staying power to resist such things. With a bad heredity in his nerve-centers he falls a victim to general paralysis, locomotor ataxia, brain-softenings, climateric melancholia, or senile dementia during decadence. The functional nervous explosions of convulsions are the most deadly of the developmental neuroses; the organic vascular-neurotic destructive lesions of brain-softenings and apoplexy kill most frequently after fifty.

We shall not be able to put on a really scientific basis the diseases of decadence until we know the exact steps in the normal process of decay of structure and function in every tissue and organ. The actual number of neuroses in any given field of the microscope during the senile period of life is fewer than in youth, such as is seen in brain sections from dementia. We know also that mentally their functions have lost much in quality and intensity. Different men decay mentally in different ways, but taking the majority the process begins at the memory of names and things that have no associated ideas, the mere labels and tickets that have no descriptive meaning. Place names and personal names are examples. Then there comes a diminution of the affective faculties, with a lowered intensity of poetic and idealized images, and also of things and of feelings. This, no doubt, accompanies a lessened sexual and reproductive energy. What is the latest age at which a man or woman can really "fall in love?" would be a proper and very interesting psycologic inquiry. Then comes a time when mental energizing generally gets slacker, when originality and spontaneity cease to be all powerful. The reasoning faculty weakens at a later period still. The highest of all departments of mind, the self-control, the volition, the mental inhibition generally, with the moral faculties, suffer as real senility advances. Emotionalism, irritability, lack of perseverance in action, and even immorality in speech and action are then met with. Every one of these steps in mental decadence must be correlated to physical alterations in the neuron. The old man's gait and speech both show lack of output in the motor cortical areas and lack of fine coordination of muscles. The whole body shrinks in volume except the less organized fat-cells in some cases.

I have known cases with a bad neurotic heredity, in which men had drunk hard in youth, but with apparent impunity, and stopped drinking when about forty, yet after fifty have passed into an alcoholic dementia. No doubt the cortical tissues resisted the toxic effects till decadence set in and then a something destructive from the old alcoholic poisoning killed off their higher energizing. I have known many cases where men have acquired syphilis in youth or middle life, and its germs have laid absolutely harmless in their brain cortices till they begin to turn the corner of life, when the resistance of the tissues becoming weakened, they became insane or paralyzed, or developed various forms of ataxia or aneurisms. It is well-known that plumbism is more common in men of fifty or sixty than between twenty-five and forty.

It cannot be doubted that the brain-tissues regulate by innumerable vasomotor centers their own blood-supply; and there can be as little doubt that the nutrition of other walls is also regulated from centers in the brain. No doubt in most cases of apoplexy from vascular disease, there is also some amount of surrounding nerve degeneration. There is a solidarity throughout the whole brain through which a tissue change seldom occurs in one organ, or system, or center, or envelop without some amount of pathologic change in some or most of the others.

An elaborate discussion then followed on

SUICIDE IN ITS PSYCHOLOGIC AND SOCIAL ASPECTS,

by the reading of several papers, followed by general discussion. A number of papers were also read upon the "Therapeutic Effect of Thyroid Extract."

Section on Neurology.

The scientific work was begun by Professor Ferrier, who, in an elaborate paper, opened the discussion on the

PALLIATIVE TREATMENT OF CEREBRAL TUMORS.

It is not necessary to enlarge upon the general dangers of cerebral tumors, but the specific effects that each indidividual cerebral tumor produces is always of interest and serves more and more to assist in their localization. He then gave a brief sketch of the progress of cerebral localization during the last fifteen years. This progress had enabled surgeons to operate at the present time upon subjects in whom operation was hardly permissible not many years ago. Aseptic surgery has also broadened the field of the surgical treatment of tumors of the brain. There still remains, however, one class of tumors upon which operation is not permissible, *viz.*: those at the base of the brain. In certain cases, however, it is quite permissible to give the patient the benefit of certain medicinal remedies before resorting to operative procedure.

Dr. Dercum of Philadelphia, in the discussion which

followed, advocated the use of potassium iodid in inoperable cases as a palliative measure, especially in glioma. In his hands, oxytuberculin, which he has tried in a number of cases and in which he had pushed the treatment to its fullest application, had absolutely failed. DR. JOSEPH COLLINS of New York congratulated PROFESSOR FERRIER upon the excellent success of his treatment and pointed out the fact that his statistics show twice the percentage of cures obtained by other operators and discussed the efficacy of potassium iodid as a palliative measure. A general discussion then followed, in which the treatment of headache and vomiting, which usually accompany cerebral tumors, was presented; also, the question of operation in tuberculous growths.

SECTION ON PHARMACOLOGY AND THERAPEUTICS.

FIRST DAY—JULY 27TH.

The president of the Section, DR. J. O. AFFLECK, opened the proceedings by an address on the

PROGRESS OF THERAPEUTICS.

He did not propose answering the celebrated question of the great Scottish philosopher, Sir William Hamilton, "Has the practice of medicine made a single step since Hippocrates?" for that had been satisfactorily answered by the lamented Warburton Begbie at the last meeting of the Association at Edinburgh in 1875. Since that time the number of new remedies has been multiplied enormously, chiefly by the adoption as therapeutic agents of substances which organic chemistry has so richly provided, the virtues of many of which are beyond all doubt. An illustrative instance might be cited in the power of salicin, and salicylic acid and its compounds, to lessen the pain, and in many cases, to shorten the attacks of acute rheumatism. The groups, too, of synthetic analgesics, antipyretics, and antiseptics have furnished us with substances which, while requiring at all times care and judgment in their selection and administration, are among the most widely employed and efficacious of the resources for treatment placed in the physician's power. A therapeutic measure of eminence is the method of treating stomach disorders by lavage, a plan which owes its origin to Professor Kussmaul. An entirely new field of therapeutics has been opened up by antiseptic surgery. The employment of various forms of baths is now gaining much wider and more practical recognition, and the application of regulated exercise in the treatment of heart disease by the Oertel system, or by the more recent Nauheim method, has been found to yield excellent results in many conditions of cardiac enfeeblement with or without valvular disease. The discovery that the introduction of fresh thyroid into the system of a myxedematous patient is followed by the rapid disappearance of all the symptoms, may justly be regarded as one of the greatest triumphs of modern times, while it has opened up a field for further effort in similar directions which is being assiduously cultivated. Of no less importance and with a still wider range of beneficent results, are the means which bacteriological investigation has placed within our power of identifying specific organisms in infectious diseases and observing their life-history and toxic properties. The way has thus been opened for the scientific study of immunity and this again has resulted in the discovery of protective and curative antitoxins, of which that of diphtheria is the most outstanding example. The testimony which has been borne to the value of this treatment in that dreaded malady has been universal.

The beneficent work of nurses is universally recognized and appreciated by the public as well as the profession, and is happily now made available for the poorest of the poor.

It is not too much to assume that the generation that ends with the century now closing marks an era in therapeutic progress not witnessed in any corresponding period during its course, if, indeed, ever before. It can scarcely be doubted that thereby the average of life has been lengthened, and it is certain that the pains and miseries of disease and death have been wonderfully lightened.

A discussion upon the treatment of

DISEASES OF THE STOMACH

was then opened by DR. HERSCHELL. PROFESSOR C. A. EWALD of Berlin gave an elaborate account of the various forms of treatment of gastric diseases which he has used and is still using, but deprecated the over-use of mechanical instruments in diseases of the stomach. DR. R. SAUNDBY advocated, in dyspeptic cases, the advantages of absolute rest in bed. The only sign of ulcer of the stomach which can be relied upon is hematemesis. When this is absent no one is justified in diagnosticating ulcer. Too prolonged feeding by the rectum is a mistake. In this connection Professor Ewald remarked that if the patient who is undergoing rectal feeding loses his pain it points to ulcer. If the pain continues the case is probably a neurosis. The discussion of the treatment was continued in its various phases by numerous speakers. DR. CRAWFORD RENTON of Glasgow discussed the subject from a surgical standpoint.

DR. LOCKHART GILLESPIE then read a short paper on

THE ACTION OF STRONTIUM IODID AND BROMID GIVEN IN COMBINATION IN EXOPHTHALMIC GOITER.

All the patients treated were deaf and dumb, but rapidly recovered under the effect of these salts and experienced no discomfort from large doses.

SECTION ON TROPICAL DISEASES.

The interest in this newly established section of the Association was shown by the large attendance. Representatives were present from France, Italy, America, British Guiana, Central Africa, West Africa, India, China, Malay Peninsula, Hong Kong, Sumatra, and the treaty ports of China and Japan. The President of the Section, DR. PATRICK MANSON of London, delivered an address on the

IMPORTANCE OF A KNOWLEDGE OF TROPICAL DISEASES.

Many of the so-called tropical diseases are absolutely restricted to tropical latitudes and in their native haunts assume phases peculiar to that climate. Many of these countries are not only teeming with an immense native population, but are also being rapidly invaded by the Cau-

casian race. The importance of this subject can scarcely, therefore, be overestimated. The extensions and progress of this branch of medicine during the last twenty years, more especially since Laveran's discovery of the malaria parasite in 1880, have been so great that the study of tropical medicine has become a life's work in itself. Every year the volume of discovery increases, new fields of inquiry are being constantly opened up and the pathological fauna and flora are found to be infinitely more numerous than their congeners of cooler climates. As a special tropical section we have three distinct functions to fulfil. In the first place, we must work for the affiliation and organization of the five or six thousand British practitioners who more or less directly are interested in tropical practice. Five or six thousand is a numerous body; such is its magnitude, however. Secondly, we must insist that those who propose to join our ranks in the future are properly educated in our special branch. We all of us feel acutely the backward state of our educational system in its bearing on tropical medicine. There is not one of us who can not pillory himself with the recollection of lives that perished, entirely owing to the lack, on our part, of the elementary knowledge of tropical medicine. Lastly, we have to discuss the problem of tropical disease. That which has been accomplished has but served once more to show that there is no finality in research; the higher we rise the wider becomes the horizon. Laveran's discovery has illuminated many things that were dark before but it has also opened out new problems and shown dark spots of ignorance hitherto unsuspected. Beyond that which Ross has just told us, we still know absolutely nothing of the malarial parasite as it exists outside the human body. Similarly, we are still in absolute ignorance of the location and of the physical features of the malaria parasite while latent in the human body, or of the exact physical conditions that cause it, after months, or even years, to spring once more into active pathogenic life.

That other great tropical disease, or rather group of diseases, which we call dysentery, is still, as regards many of its forms, their causes, and their treatment, a sealed book. The pathology of liver abscess is still, as it has ever been, *quaestio vexata*. We just begin to know a little about the symptoms, epidemiology, and pathology of beri-beri; we do not know its cause. There is plenty of work for us to do. These are not a tithe of the problems in tropical pathology calling for our consideration. In all pathology there is no such field for fruitful, original research and discovery as tropical medicine.

THE CLASSIFICATION OF TROPICAL FEVERS

was then taken under discussion. The tendency of the thought was to separate malaria from climatic fevers and to differentiate a class apart from either, The subject of ardent fever was keenly taken up and many expressed the belief that the recent theory that would attribute it to infection was not confirmed by experience in India. The fact was brought out that even in latitude 66 degrees north, *viz.:* on the shores of the Gulf of Bothnia in Sweden, attacks of malaria are not unknown. The high death-rate in Africa from black-water fever was presented by Dr. Sanborn, who expressed the opinion that the disease is not an aggravated form of malaria nor due to the influence of quinin. It is most probably a specific disease allied to the hemoglobinuria of cattle, caused by a parasite which has been classed between protozoa and bacteria.

SECTION ON DERMATOLOGY.

FIRST DAY—JULY 27TH.

The President of this Section, DR. W. ALLAN JAMIESON of Edinburgh, in his opening address, dealt with the subject of

REST IN THE TREATMENT OF DISEASES OF THE SKIN.

Various states of unrest calling for the application of this principle were referred to, over-action of the glands and appendages being exemplified in hyperidrosis, seborrhea, and ichthyosis of the nerve-supply in hyperesthesia and pruritus. The inflammatory diseases, eczema, acne, and furunculosis, provide exemplification in another class. Here, the speaker took occasion to refer to the admirable results obtained in erysipelas by the use of ichthyol in strong ointment (20 to 50 per cent.). Spread of the disease is limited and constitutional effects much lessened. In scleroderma pigmentosum, rest and protection from light offer the best results in treatment. [The President later exhibited a child in whom this unmanageable affection had been stopped in its lethal course by the use of ointment containing amber and of thick brown veils, thus preventing access of the sun's rays to the skin.] Even diseases due to parasites alone, tuberculosis, pediculosis, scabies, are often benefited by judicious application of the principle of rest.

After the address the Section adjourned to the Royal Infirmary to attend an exhibit of cases, the best feature of many recent dermatological congresses. Both in numbers and in selection the exhibition proved its worth. Admirable hints as to treatment were dropped in the course of the informal discussion, and contending opinions fairly harmonized. Two cases of scleroderma were shown; one treated by Unna's ointment of bichlorid of mercury (gr. ii-iv–℥ i), the other by the salve and massage, showing striking improvement. One case treated by iodid of potash showed no amelioration whatever. Apropos of a case of leprosy, UNNA of Hamburg remarked that laboratory experience had led him to the use of caustic alkali solutions for the removal of nodules from the face and other exposed parts. The alkali is used in baths as well as in solution or ointment on the skin. Several cases were shown of Duhring's dermatitis herpetiformis in its varieties, the bullous case being assigned by observers to the pemphigus group. Four cases were presented of so-called lichen ruber, two of which UNNA and BOECK of Christiania unhesitatingly classed as parakeratosis variegata, pointing out the ringed character, the rosy, slightly scaling primary lesion distributed on trunk and extensor surfaces chiefly. MALCOLM MORRIS thought several of the cases might be called an early stage of mycosis fungoides. CROCKER supported Unna's opinion.

On the second day interest centered chiefly in the dis-

cussion on lupus erythematosus, a vexed question occupying much attention recently in America. BOECK opened on the side of pathology, saying that the disease in all its forms is an eruptive inflammatory disorder whose special localizations are determined by the vasomotor centers of the skin. It is never a mere local process, although local irritants, heat, cold, etc., play a provocative part, bring the vasomotor disturbance in play. Considering the frequent association of lupus erythematosus and tuberculosis, the latter must play some etiologic part, and is probably the essential cause. The tubercle bacillus has, however, not been found in the tissues, and it is probable that erythematous lupus is due to its toxins, which act first on the vasomotor centers and then locally. The main anatomical changes are: dilatation of the vessels, intoxication of the tissue-cells and, secondary to the latter, inflammation, the whole resulting in atrophy, rarely necrosis.

UNNA, in speaking of treatment, said there exists no rational method, internal remedies having practically no effect. Local applications are best directed by anatomical findings, being directed in general to removal of the horny covering, and to lessening the edema which appears on slight irritation. It is best to begin always with mild, soothing remedies proceeding to destructive only when the uselessness of the former is proved. First use dessicating remedies, powders of zinc, sulphur, resorcin until irritation disappears, then something stronger, such as soft soap, almost a specific, or pyroxalin, an oxidation product of pyrogallol, non-toxic, in paste, or spread as a plaster. Mercury, particularly the ammoniated form, serves admirably, but it should be remembered that greasy bases are not indicated. Pastes should always be used instead. It is rare that recourse should be taken to cauterization in any of its forms. The author has seen absolute cures follow observance of these rules.

MALCOLM MORRIS, on the last day of the meeting, gave an admirable definition of eczema. He describes it as "a disease, the most prominent clinical feature of which is the infinite variety of lesion by which it displays itself, originating in the action of parasites on the skin, the resistance of which has been enfeebled by preexisting disease, structual abnormality, or by disordered innervation, sometimes made more intractable by gout or other constitutional states, but having no direct relation to the general health." As this is the embodiment of the modern conception of this disease, and as it contains every point brought out in the paper, it need not be further amplified, except to say that, while no anatomical basis exists for the assertion, the disease does apparently arise from states of nerve depression.

WALLACE BEATTY of Dublin continuing this debate, said that eczema is anatomically an inflammatory catarrh, clinically attended at some time in its history by exudation. He would exclude from the category all cases in which exudation does not occur. The points of differentiation as from psoriasis, for instance, are localization, itching (?), chronicity, history, and etiology. If it is really and always parasitic, finding of the parasite will in the indefinite future make the diagnosis. UNNA disclaimed any belief in the absolutely parasitic nature of the disease. COLCOTT FOX holds that it is best studied in children, and that it is only a local condition, constitutional disturbances only intensifying it. BARRENDT (Liverpool) is of the opinion that removal of the covering epidermis is the chief cause of eczema; in other words, that it is oftenest a local irritation, but there are cases in which transmissibility and consequent probable parasitism have been proven.

THERAPEUTIC HINTS.

Formula for an Expectorant Pill.—

℞ Terpin hydrat. . . . . gr. xlv
Radicis glycyrrhizæ . . . gr. xv
Ext. glycyrrhizæ . . . gr. xxx.

M. Ft. pil. No. XXX. Sig. Two pills three times a day.

For Infantile Gastro-enteritis.—

℞ Tannigen . . . . gr. xv–3 i
Sacchari lactis . . . 3 i.

M. Div. in chart No. XII. Sig. One powder every three hours in water or food.

For Spasmodic Croup.—

℞ Aluminii . . . . . 3 ss
Vini ipecacuanhæ . . . . 3 iss
Syr. tolutanæ . . . . ℥ ss
Aq. dest. . . . q. s. ad. ℥ iii.

M. Sig. One to two teaspoonfuls every three hours.

For Acute Laryngitis.—

℞ Hydrargyri chlor. mit. . . gr. i
Sodii bicarb. . . . . gr. xxiv
Pulvis aromat. . . . . gr. xii.

M. Ft. chart No. XII. Sig. One powder every hour.

A Diaphoretic Mixture for Bronchitis.—

℞ Morphinæ acetat. . . . gr. i
Potassii acetat. . . . . 3 iii
Liq. ammonii acetat. . . . ℥ iii
Syr. tolutanæ . . . . ℥ i.

M. Sig. Two tablespoonfuls every third hour.

For Pruritus Ani.—

Brocq prescribes frequent enemata of a solution of boric acid in chamomile water, to be followed by the application of a soothing ointment (zinc oxid in vaselin). Lastly, the parts are abundantly powdered, the formula for the powder being as follows:

℞ Camphoræ pulv. . . . gr. xxv
Zinci oxidi, Bismuthi subnitrat. } aa . . 3 vi
Talci . . . . . 3 i.

M. Sig. External use.

Absorbent cotton compresses are used when feasible to keep the powder in contact with the anus. When the irritation has somewhat subsided the parts are painted every other day with a twenty-five-per-cent. solution of silver nitrate. A cocain and belladonna suppository inserted at night may assist the treatment.

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXXIII. NEW YORK, SATURDAY, SEPTEMBER 3, 1898. NO. 10.

ORIGINAL ARTICLES.

ON THE VALUE OF THE AUTOPSIC FINDINGS IN SUBJECTS DEAD FROM SUSPECTED YELLOW FEVER.

BY EUGENE WASDIN, M.D.,
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THE history of yellow fever establishes clearly the fact that it has been, and continues to be, of absorbing interest to all who have come in contact with it, because of the obscurity which has always enshrouded its etiology, the comparative difficulty in diagnosis, and the varying severity of the disease during different epidemics and in different localities. Naturally the question of its diagnosis, upon which depends very frequently the safety of large communities from its ravages, and, *per contra*, the integrity of commercial relations between a suspected place and other reactive centers, is a most important one. For many years the external appearance of the dead body, and that of the internal organs, has been accounted of great value to the diagnostician; and it is of the comparative value of such appearances to one called upon to make a decision under such conditions that this paper treats.

The yellow-fever cadaver has assuredly a most characteristic appearance. All subjects dead from the disease bear a close resemblance to each other; indeed it would not be difficult to make a diagnosis, other facts being favorable thereto, from the cadaver alone. The body is usually quite rigid, this change in the muscles coming on early and persisting. The color is invariably more or less intensely yellow, and is due to a mixed hepatogenous and hematogenous jaundice. The entire skin is tinted, the scalp usually presenting a startling contrast to the parted hair, and the whites of the eyes are yellow, the change taking place in the conjunctivæ early in the disease, the scleræ becoming tinted later. This yellow tint is always contrasted with the deep purple discolorations from hypostasis which quickly appear in the skin of the dependent portions of the body after death, and which frequently appear before. It is at the edges of these hypostatic areas that the mixture of biliary and blood jaundice is particularly noticed as a muddy, thick, grayish-yellow tone. Hypostasis is common to all cadavers, but particularly is it prominent in this disease. It is not confined to the lower portions of the body, as the buttocks, loins, and shoulders, but invades the neck, chest, ears, and face; the genitals, as a rule, and the finger- and toe-nails, are of a deep purple color. This discoloration occurs quickly, and is prominent within an hour after death. The pupils are usually dilated, the tongue foul, and the gums bloody; the anterior nares are caked with blood. This is a picture of a typical yellow-fever cadaver, and the appearances may be accentuated or softened, but the characteristic ensemble will be present in all.

My experience in autopsies on subjects dead from malarial fever in the South, has shown me that there are externally many points of resemblance in them to the yellow-fever cadaver, and at times I feel assured the decision between them would be very difficult or impossible. Dependence must then be placed upon the conditions found in the internal organs. Section shows deep yellow tinting and dryness of the superficial tissues and the peritoneum, a glazed appearance of the intestines, which are dry and sticky to the touch, and a deep-tinted peritoneal fluid. The organs are of a yellow tint, ranging from light to deep saffron. The omentum is deeply congested, the dilated, purple veins contrasting with the general tint. The spleen is usually of normal size and appearance; any deviation suggests preceding or complicating disease. The kidneys are always congested and swollen; the stellate veins of the capsule are prominent; the capsule itself is not influenced by the disease; frequently there are extravasations upon the cortical surface. Incision of the organs shows congestion of the renal veins, yet the general appearance is pale. The cortex is swollen, its markings usually obscured, and at the bases of the pyramids of Malpighi there are seen pale yellow fatty areas. These are very generally seen, and in cases of long duration a general fatty appearance is present. I would attract especial attention to these fatty areas about the base of the pyramids within the cortex, for they can be seen when the kidney otherwise appears free from fatty change. The adrenals are normal. The urinary bladder is usually empty, from anuria; its mucosa may present extravasations. In one case only have I known bloody urine from such extravasation. The mesentery is always typically congested, yet I have but rarely seen extravasation in its layers; the congestion is more marked in the reflection upon the duodenum.

The liver, long considered the pathognomonic organ, may or may not be normal in size, but any deviation from the normal I consider dependent upon some other cause, for if the histology is considered it will be seen that upon the increased amount of blood in the vessels depends any increase, while the termination of the disease must anticipate noticeable decrease in its size, from absorption of the fatty detritus. I have usually found the organ normal in size. The gall-bladder is generally empty, owing to intra-abdominal pressure from vomiting and decreased secretion, but may contain a normal amount of bile. The color of the organ varies from a light buff, or "box-wood," to a dark brown, this seeming to depend upon the amount of congestion, the left lobe and upper portions being, as a rule, lighter in color than the right and more dependent portions, the posterior surface being a dark blue from stasis. At times this fatty appearance is diffuse, and again there may be only plaques of yellow upon the surface, or throughout the organ. A frequent appearance is that of the so-called "nutmeg" liver, the yellow points contrasting with the red lines about them. Upon section, the liver, if not the subject of preceding disease, presents a normally firm resistance, is of firm consistence, at times friable and dry, of a pale yellow color, and imparts to the blade a greasy stain. The portal vessels are full of dark fluid blood, which changes to carmine on exposure to the air. The venous radicles are distended, the adjacent parenchyma showing fatty change, and this contrast results in the "nutmeg" appearance. The smaller bile-ducts are empty. The capsule is normal. The vessels of the stomach walls are congested, also those of the omental reflections. The stomach may contain more or less blood-stained fluid, which if exposed to the acid secretion for some time may have the "coffee-grounds" appearance. Frequently the content is a thick, glairy, grayish mucus, which clings to the mucosa. The mucosa itself is invariably thickened, swollen, and presents numerous patches of extravasation and shallow erosions. While the entire membrane may be affected, the changes are more marked on the anterior surface and near the pylorus, the membrane here presenting a deep port-wine stain from diffuse extravasation and often evidence of free hemorrhage. If many hours have elapsed between demise and autopsy the membrane will be found much softened and with many erosions from post-mortem change. The vessels of the duodenum are engorged; the mucosa is swollen, eroded, and hemorrhagic; in some instances it contains black, grumous blood, from which the stomach is free. The mucosa of the entire canal may present evidences of ante-mortem congestion in the form of minute extravasations. In the female there may be extravasations in the ovaries or the mucosa of the tubes and uterus. The vessels are prominent on the surface of the diaphragm.

Within the thorax the general yellow tint prevails, there being nothing notable about the lungs save congestion; the pleuræ frequently present ecchymoses. The pericardium, both visceral and parietal, also is frequently ecchymotic. The heart is usually in diastole, or the left ventricle may be rigidly contracted from change in the muscle, the right being always dilated with dark fluid blood. There is always present a very notable congestion of the vaso vasorum of the great vessels at the base of the heart, these minute vessels forming a delicate tracery over their serosa and upon the walls of the auricles, which at times present minute ecchymoses. I deem this a very constant and characteristic appearance. The heart muscle does not show fatty changes very often to the unaided eye. The fluids of the pericardium and pleuræ are yellow. The changes in the brain and its membrane are those of intense congestion, the fluid of the ventricles being yellow, and there may be extravasations.

Such are the findings in a typical yellow-fever cadaver. It is sometimes said that a yellow-fever autopsy is a bloodless one, but this expression must have arisen because of the limited scope of many hastily made sections, which consist in an exposure of the liver and its incision; the extraction of a kidney, and the exploration of the stomach *in situ*. In reality, the full influence of the toxin is felt upon the vasomotor system, and results in an incomparable congestion of the vessels of the abdomen, and when complete the section presents an appearance quite the reverse. A study of the histopathology of the organs must be limited to the examination of fresh sections from the liver and kidneys, for in these the fatty changes are best seen. The liver cells are more granular, stain more faintly, and contain numerous fat-droplets; those of the kidneys lining the tubules, especially of the cortex, are also filled with drops of fat. These gross changes are readily detected, and if facilities are at hand they should be sought for. But the importance of an immediate diagnosis will have long passed before the finer histologic changes may be observed.

I have said that the above appearances are constant in the cadaver of yellow fever. The question then arises as to their diagnostic value. Is it possible to arrive at definite conclusions from an isolated case presenting all of these signs? Would we be justified in such cases either in withholding quarantine protection from a community, or in initiating quarantine to the possible detriment of commerce?

The last phase of the question is a most important one, and at times exercises as much influence as the first. From recent observation I feel safe in asserting that it is not possible to diagnose this disease from the appearances and the gross microscopic findings alone. I do not undervalue their importance when taken in due consideration with the history of the case, the clinical charts, and the history of albuminuria, in assisting to form an opinion, but in the absence of these accompanying facts they are not sufficient to name the disease, although a diagnosis may be safely ventured in the absence of any other known cause of infection.

Just here I will venture tentatively upon the question of etiology as having a direct bearing upon what has been said. All observers in this field have recorded the presence of the bacillus coli communis in its many forms in the blood of patients living, and more freely in the blood and tissues of those dead from yellow fever. Sternberg, in 1889, discovered, among other forms in the tissues of such patients, a bacillus of such peculiar physiologic and vegetative characteristics that he assumed for it a distinctive position among these organisms, and from its influence upon animals, a possible etiologic value in this disease. This was bacillus X. In 1897, Sanarelli, of the University of Montevideo, published his discovery of a bacillus which, he claims, causes the disease, and which he named the bacillus icteroides. These organisms present many similar features of growth and chemic reaction, yet there are sufficient distinguishing characteristics to ensure them separate places in the group of colon organisms; for during my observation upon these, and other organisms from yellow-fever cases, it became evident that the former belonged to this group, and it appears probable that the bacillus of Sanarelli was alone to be classed among them. On September 28, 1897, it was my privilege to observe a case of yellow fever at the isolation division of the Marine Hospital Service detention camp at Fontainebleau, Miss., in the person of one Goodrich, and from cultures from his blood on the fourth day of the disease (which was well marked) to isolate a bacillus, which corresponded to that of Sanarelli, from a contaminating colon bacillus. This was designated bacillus "Goodrich," and was esteemed the first organism isolated after Sanarelli in this country. Later, in the City of Havana, and in concert with my colleague, Passed Assistant-Surgeon H. D. Geddings, United States Marine Hospital Service, this bacillus was isolated from a number of cultures taken in the Isolation Hospital in New Orleans during the epidemic of last year. Besides the organisms isolated by us from these native sources, it was our privilege to study a limited number of cases of yellow fever in the military hospitals of Havana, and in sixty per cent. of these we isolated the same bacillus. In all of these instances this organism maintained its distinctive characteristics from the bacillus X.

Experimental inoculations with these organisms were usually fatal to animals, which exhibited more or less pronounced rapid or prolonged symptoms of intoxication, but necropsy always gave similar appearances in the different organs. As an example I give the notes from an autopsy:

Pig No. 2, white female, weight 525 grams, was injected intraperitoneally with 1 c.c. of a twenty-four-hour bouillon culture of bacillus "Goodrich" at 3 P.M. on February 9, 1898. On the morning of the 10th the animal exhibits evidence of distress, does not eat, remains crouched in cage; abdomen tender. Temperature, 37.3° C. (99.2° F.); respirations, 80. At 3 P.M. the animal is quite ill, and has lost 42 grams in weight. At 9 A.M. on the 11th it died. Necropsy immediate. Body still warm. Heart first exposed; in diastole and full of dark fluid blood; the vaso vasorum distended over the great vessels at the base; pericardium and fluid slightly tinted. The liver is congested with numerous plaques of a yellowish-white fatty appearance; when incised this fatty appearance is general. The spleen is slightly increased in size and congested. The kidneys much congested and swollen. The urinary bladder contains 6 c.c. of urine which, by the cold nitric-acid test, gives a dense ring of albumin, and which is also shown with heat and nitric acid. Peritoneum not inflamed; some injection at the point of puncture to left of median line; in the left iliac fossa there is a small quantity of cloudy fluid localized. Mesentery normal save an intense engorgement of its vessels, especially in its duodenal reflection. In the stomach the mucosa is congested, thickened, and softened, especially about the pylorus; that of the duodenum much congested with numerous small extravasations, but no free hemorrhage. Cultures from blood of organs, and from the fluid from the fossa, give, after twenty-four hours, colonies only from the latter. This is a pure culture of the inoculating organism. After forty-eight hours tubes from the left pleural fluid also exhibit colonies of this organism in pure culture, the spleen also giving a colony free from contamination. Cover preparations show only a small characteristic rod in pure culture from the fluid in the iliac fossa.

In this case there was no free blood in the stomach or bowel, but in the very next of my series there is this note: "Mucosa (stomach) injected and near the pylorus there are ecchymoses and at one point at least there is free hemorrhage, which has stained the food-mass a dark or black color. This looks like 'coffee-grounds.'" This experience has been that of many other observers. These organisms elaborate a toxin which exerts a characteristic and

powerful influence upon the vasomotor system, as evidenced in the intense engorgement of the vessels, the gaseous, toneless pulse, and the full diastolic heart, prior to and post-mortem; also, in that rapid metamorphosis of the albuminoids of the highly organized cells of the liver and kidneys. The intention is not to contrast these organisms, but to accentuate the fact that there is no constant sign at these autopsies by which we can name the particular one which has produced the disease.

Here I will revert to the subject proper, the value of these post-mortem appearances in the human body. And again I must refer to notes kindly furnished me by Dr. B. E. Baker, of the Army General Hospital at Key West, Florida, in order to illustrate their value. The U. S. S. "Yankee," cruising on the southern coast of Cuba during June, 1898, entered Key West harbor. She sent to the hospital a seaman ill for one week with appendicitis. Her officers later stated that a few Cubans had been entertained on board during the cruise, and that several boat crews had been sent on board of captured vessels for the purpose of destroying them, but that no baggage or effects had been allowed on the vessel excepting four dogs and a few machetes. On the third day after entering the hospital, and second after operation for appendical abscess, the patient developed high fever, became delirious and died on the fourth day, the entire illness having lasted about ten days. Prior to death the acute exacerbation (the temperature having fallen to normal after the operation) and the mental symptoms attracted attention. The skin was noticed to be jaundiced and suffused, as were the eyes. The urine contained no albumin at this time, but was found to contain it after death. At autopsy the general appearance of the body impressed the operator, Dr. Baker, with the probability of its being the subject of yellow fever, and I was called in consultation. After a careful examination of the body and organs I concurred in the diagnosis of yellow fever.

Necropsy made five hours after death. White male adult, poorly nourished; rigor marked; conjunctivæ slightly jaundiced; pupils normal; post-mortem lividity on back and neck and dependent portions of the body, on scrotum and prepuce; the face, neck, and anterior portions of trunk a bronze yellow color, not so marked on the legs. On section, there is about 12 c.c. of clear bile-stained fluid in the pericardial sac; the membrane contains a few ecchymotic spots in its reflection over the diaphragm; the visceral reflection also is ecchymotic, and presents extravasations of blood well marked at the base of ventricles; the vasa vasorum distended; the heart normal in size; the left ventricle contains small amount of soft blood-clot; the right auricle and ventricle distended with dark fluid blood; valves competent, muscle is pale and yellowish; aorta tinted, some atheroma about valves. The pleuræ shows old adhesions; the lungs are normal. The abdominal cavity is dry; the intestines sticky; the mesentery and the omentum show ecchymotic patches; the glands are enlarged. The spleen is normal in size and color. The kidneys are slightly increased in size; congested; the stellate veins of the capsule well marked; the inner edges of the cortex, near the bases of the Malpighian pyramids, show a yellowish tinge; suprarenal bodies normal. The liver is normal in size, of typical nutmeg appearance, with lemon-yellow areas and spots scattered over the surface; the gall-bladder contains 45 c.c. of thick greenish black bile. On section the liver presents a typical nutmeg appearance, and much congestion. The stomach is somewhat dilated and contains 250 c.c. of brownish black fluid with brown granules; the mucosa is congested throughout, but especially on the posterior wall near the cardiac extremity. (When washed there were great plaques of deep wine-colored extravasation and numerous erosions.) The mucosa of the duodenum is ecchymotic, and there is free hemorrhage in the form of "black vomit." The last inch of the ileum is bound down by adhesions, as are the caput coli and the cecum. On freeing the gut a small abscess cavity is seen between it and the abdominal wall, in which is the vermiform appendix, with a slough in its distal portion, the upper two-thirds being normal. (This cavity was drained through an incision in the abdominal wall.)

In this case there was no doubt in my mind that death had been caused by infection with one of the organisms of the group already named, but with which one? Here there was an acute appendicitis, with localized abscess, and perfect drainage. Was it clear that death had taken place from a general infection from the colon group? Not at all, for this patient had possibly or probably been exposed to the infection of yellow fever through the presence on board his ship of persons who may have conveyed infection in their clothing. The time elapsed since such possible exposure was about the incubation period of the disease. If we assume that the fever developed in the hospital it must have been contracted on the ship, since there has been no yellow fever in Key West during the present season. In this remarkable case, remarkable because of the element in it of serious possibility, amounting to probability of exposure to the infection of yellow fever, contrasted with the fact of local if not a general infection with

the bacillus coli communis, I concurred in the diagnosis of death from yellow fever honestly, for this was a yellow-fever cadaver as we know them from external appearance and anatomical facts. However, I am now convinced that it was simply an intoxication from auto-infection with some member of the colon group of organisms. For, notwithstanding the fact that the crew of the "Yankee" was composed of young Northern men, the New York Naval Reserves, and that the surgeons, nurses, attendants, and neighboring patients were reagents, there has been no sequel to the case, nor is it reasonable to assume that this seaman, ill in his cot from appendicitis, should have been the only one of all the reagents on this ship to have contracted the possible infection.

The city of Key West was the base of naval operations against Spain. Its poor sanitary condition, the presence of a large number of non-immune residents, and the necessity of keeping the base open, all seemed to me to demand the diagnosis which we made, for under the circumstances the only harm possible would be the restraint placed upon the inmates of the hospital for the prescribed time and extra vigilance upon the part of the medical officers on board the ship. Only a few minutes after the post-mortem one of the medical officers, a reagent, asked me, "How much danger of infection have I risked from my presence at the operation upon this subject, and my having visited it several times since?" I replied: "None, provided this man has not come into contact with the infecting agent of yellow fever." Moreover, I felt willing to assume the responsibility, provided also all blame in continuing the routine of the hospital without other restraint than strict vigilance until some sequel demanded its isolation. However, was the autopsy in this case of material assistance of itself? In the absence of any history of possible infection could any one, familiar with the appearances in the organs of animals killed with the organisms mentioned, and comparing these with those found in yellow-fever organs in man, have unhesitatingly decided in this case? Yellow fever, clinically studied, has impressed many observers, since I have heard it frequently expressed among the profession of Southern cities that it is a disease in which probably two etiologic factors are present, the primary or external agency, giving rise to the initial symptoms of the disease, and a secondary or internal agent of auto-infection. Is it not possible from what has been shown that the auto-infection may be productive of the autopsic appearances? This view of the disease is reasonable, but not yet proved, nor will it be until the indubitable cause of yellow fever is discovered, that is, an agent which not only can give rise to the appearance of yellow fever, especially post-mortem, but can, as in the case of the bacillus of diphtheria, give rise to an acute dissemination of the disease among those who are reagents. This has not been demonstrated either in the case of the bacillus X. or of bacillus icteroides. We should not hastily decide upon the etiologic value of an organism, so closely allied to the colon group as are the two named, from the influence exercised upon the sick by the exhibition of its antiserum, but depend rather upon its power to reproduce the disease, "catching" from person to person, and of the antiserum to prevent such infections. Finally, I would suggest that typical autopsic findings should always be regarded with suspicion, and demand immediate investigation of their cause. Should there be, or not, any local center of auto-infection, there should be an investigation of the immediately preceding history of the patient, and should there prove to be evidence of exposure to infection of yellow fever, and should the clinical charts and history present the evidences of the disease which we have learned to recognize, then and only then can the information gained post-mortem be of decisive value to the diagnostician.

CATGUT SUTURES AND LIGATURES.[1]

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SHALL we continue or shall we discontinue the use of catgut in gynecological surgery? is a question of great practical import and one which, in view of the tens of thousands of clinical experiments made by the members of this Society in the aggregate, we ought to be able to answer definitely to-day.

The importance of any given suture is enhanced or depreciated by the relative qualities of other suture materials, their durability and their liability to lodge sepsis. The alternatives to the catgut suture are silk, silver wire, and silkworm gut. A further matter for investigation is the relative value of these materials for sutures and for ligatures. In general, if I had to abandon all sorts of sutures and ligatures but one, I would unhesitatingly prefer to keep catgut as the one which unites in itself the most advantages with the fewest drawbacks. Having, however, a choice among the four materials mentioned, I am accustomed to discriminate with regard to certain of their peculiarities and to employ one or the other, or all of them in a given case. Catgut should not be used exclusively for these two

[1] Read in the discussion on "Should Non-absorbable Ligatures Be Discarded in Gynecological Surgery?" at the Twenty-third Annual Meeting of the American Gynecological Society, held at Boston, May 24, 25, and 26, 1898.

reasons: it does not bear tension well, and in surface work it is liable to infection. The great danger of catgut is the absence of scientific bacteriologic control of its preparation from the raw state and its liability in occasional instances to harbor infectious organisms. This, which was the burning question of ten years ago, has now been definitely set at rest by the cumol sterilization of catgut, by which the hydrocarbon at a temperature of 155° to 160° C. renders the gut sterile beyond a peradventure. By this means the whole question as to the propriety of using catgut has been placed upon an entirely new basis, and the query is no longer as to the possible risks, but as to the intrinsic properties of the material as a suture and as a ligature. With a suitable apparatus there is no danger from the explosion of the cumol during the process.

I do not feel able to express an opinion as to the possibility of sterilizing catgut by prolonged boiling in alcohol, even under pressure, or as to the bactericidal power of the formaldehyd solution. I look askance at the dry-heat methods of sterilization so extensively used throughout the West.

Before the advent of the cumol method of Menge, and the cumol dry method as suggested by Clark, I lost three cases where I could trace the deaths from septic peritonitis to no other cause than the catgut. Since using this method I have never seen a single instance of infection where there was the slightest reason to suspect the gut, although I have used, I believe, on an average, about fifty strands a day for more than two years past.

My experience with catgut is limited to the lighter strands; stout, heavy catgut I have never used. I consider catgut the ideal ligature for vessels of small size, and I have used it without stint in controlling hemorrhage, except for large vascular trunks, such as the internal iliac and uterine arteries, where I use light silk. I had a case of death about two years ago from the absorption of the catgut ligature applied to the right uterine artery after a supravaginal amputation of the uterus; the bleeding occurred about the eighth day and was fatal before we could check it. Since using silk only in this limited way, and using catgut extensively in the abdomen, I have never had to fish out my ligatures after operations.

In the plastic work in the vagina I take the tension off the areas to be held together by a single silkworm-gut suture on the cervix holding the lips together, and in the vagina loosely approximating broad denuded areas; the catgut then comes in to do the work of accurate approximation where there is no tension.

In the abdomen I sometimes use a single fine silk suture to draw the lips of the cervix together in the middle, and fine silk ligatures on the large vascular trunks, all the rest of the ligating and suturing being done with catgut.

In the abdominal incision I have long used catgut throughout, in three or in four tiers, for incisions two inches long or under; in longer incisions, in approximating the fasciæ and recti, I divide the wound up as suggested by Dr. W. Russell, by silver-wire mattrass sutures, placed about an inch and a half apart, and then use catgut in between. The wire takes the tension and the catgut secures accurate union between.

In genito-urinary work, catgut is safe in the cortex of the kidney, and it has proved safe in uninfected cases wherever I have used it, even where it has shown on the mucous surface. It is absolutely safe in the muscular tissue outside the mucosa. It is not safe when there is any decomposition of the urine.

I have used catgut with the loops of the sutures appearing on the mucous surface of the bladder, and after the absorption of the buried portion of the suture, the loop was discharged by the urethra.

The best way to use catgut in the genito-urinary apparatus is to bury the entire suture in the tissues lying outside of the mucosa; treated in this way they act like buried catgut sutures at any other point. If there is any tension to be overcome I then prefer using fine silk in my urinary work, if the silk is buried so as not to appear on the mucous surface; it never does harm and does not have to be removed. I think with silk of this fine sort and with catgut we can best close all wounds of the upper urinary tract and involving the bladder above its base. More powerful sutures are often necessary to overcome the tension produced by bringing together the tissues at the base of the bladder, as for example in vesico-vaginal fistula. Even here, however, I think we will do better if we free the bladder from the vagina on all sides so that it comes loosely together, and then close it with the fine silk and catgut sutures.

Permanent sutures of any sort whatever attract the urine salts, and form calculi if they are exposed to the contact with the urine. In this way calculi have been removed containing, as a nucleus, silk, silver-wire, and silkworm gut.

The Accommodations at Montauk.—The hospital accommodations at Montauk are still deplorably lacking in number and in convenience. The general hospital, which was built to accommodate 500 patients, already contains 1100, so that the sick are badly crowded. The result is that the sick men in the various commands are perforce thrown back upon the regimental hospitals, which are nothing but ordinary privates' tents—some of them occupied by the well as well as the sick.

HYPNOTISM IN PREGNANCY AND LABOR.[1]

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THIS subject is one of the very greatest importance to every general practitioner in whose sphere the phenomena accompanying pregnancy rightly belong. I shall leave out of consideration psychic influences that can be brought to bear upon the fetus, for though the possibility of such influences is supported by facts, they are regarded as mere coincidences. I shall not touch upon the mode of action of suggestive therapeutics in general; that I have detailed in a paper, entitled "Hypnotism as a Therapeutic Agent," which was read before this Association, and published in the *New York Medical Journal* of May 30, 1896. For purposes of convenience I shall divide my subject into three parts, describing my experience with the hypnotic treatment first in the pathologic conditions of pregnancy, then in normal labor, and, finally, in the puerperal state.

As regards the first subdivision, there are, I think, only three abnormal conditions in pregnancy in which suggestive therapeutics may be of use. These are: (1) hyperemesis gravidarum; (2) anorexia, with disgust for certain articles of food; (3) abnormal craving for particular foods, and especially for unpalatable substances which are usually not regarded as food. Simple vomiting occurring once or twice a day is an almost constant physiologic condition of conception and pregnancy. It is usually not very troublesome, and as pregnancy progresses it generally ceases spontaneously at the end of about the third or fourth month; in most cases, therefore, it is not a symptom that requires any interference. The case is different, however, when the vomiting lasts beyond the usual time, or when it is so frequent and violent that the patient's nutrition is interfered with, thereby impeding the process of digestion and threatening the well-being of the mother and lowering the vitality of the child.

The worst types of this condition, vomitus gravidarum perniciosus, imperatively calls for interference, for the persistent rejection of food is a menace to life itself. Every practitioner is acquainted with this condition of slow starvation, aggravated by the continuous gagging and vomiting soon after the ingestion of foods or liquids. The etiology of pernicious vomiting is still an unsolved question. Is it a reflex irritation of the stomach caused by an irritation of the nerves of the uterus, or is it an irritation of the center of vomiting dependent upon an alteration of the intracranial pressure, or is it a disturbance of nutrition of the central nervous system, as some authors assert? We do not know. Horwitz claims that it is due to a parenchymatous inflammation of the uterus, and especially of the fundus. Graily Hewitt thinks the cause of the reflex irritation of the nerves is the pressure of the gravid uterus upon the nerve terminals. Bretonneau finds its cause in the inverse ratio of dilatation of the uterus to the growth of the ovum. Experience has taught us that either the intra-uterine death of the fetus or the spontaneous or artificial expulsion of the child, or sometimes dilatation or cauterization of the cervix uteri, will put a stop to the vomiting. Drugs and dietetic measures do not seem to have much effect upon this condition, but it has sometimes been observed that mere change of location or environment, such as is effected by the temporary return of the patient to a former home or to the house of her parents, will also relieve the vomiting. Being thus amenable, in some cases at least, to psychic influences, it has been thought worth while to try suggestive therapeutics, the influence of which is more powerful in this form of abnormal pregnancy, and more especially in cases in which the environment could not be changed. This has been tried in such cases very often both in Europe and in this country with good results. Permit me to cite a few cases of my own to show its action.

CASE I.—Mrs. I. K., thirty-two years old, born in Hungary, had three children. She came to me in the second month of her fourth pregnancy. I had previously relieved her of a facial neuralgia by suggestion, and she now asked me to do something for her vomiting. She had suffered from the same trouble during her former pregnancies. In these vomiting had occurred many times daily during the whole nine months of gestation, and though she had suffered continually from hunger and thirst, she had never been able to retain more food than was just sufficient to keep her alive. I hypnotized her. After the first séance the vomiting ceased entirely. To ensure the permanency of this result and counteract the feeling of disgust for certain articles of food, such as meat, etc., that she sometimes experienced, I repeated the suggestions several times. One suggestion was usually enough to cause her to like food which was previously unbearable to her. The entire subsequent course of her pregnancy was free from vomiting, and her general condition remained excellent.

CASE II.—Mrs. B., twenty-one years old, born in New York of Irish parentage. In the fall of 1896, toward the end of the seventh month of her pregnancy, she began to suffer from uncontrollable vomiting. During the previous months she had vomited regularly once or twice daily, but the emesis

[1] Read at a meeting of the Medical Association of the County of New York.

was not violent, and she was able to retain enough food to feel fairly well. She had taken cold while at the seaside, was coughing, and the vomiting had then become so persistent that she could not retain any foods or liquids at all. For four weeks two physicians had tried to stop the vomiting with various drugs, but it became worse, until at last even the smallest quantity of liquid was rejected. She was emaciated almost to a shadow. She was literally starving, and during the last few days the rejected food was mixed with blood.

The husband, whose mother and sister I had had occasion to treat hypnotically, called me in consultation with the attending physicians. They proposed to dilate the cervix uteri, that, in their opinion, being the *ultimum refugium*. I advised a trial of hypnotic suggestion, but they did not agree with me as to its advisability. I then asked a trial of twenty-four hours, remarking that if at the end of that time suggestion did not succeed there would be time enough to resort to dilating the os, which procedure might or might not be followed by abortion. My advice was finally accepted, and I hypnotized her. She went only into a superficial sleep, yet on awakening she could eat and retain a small amount of food. I hypnotized her once daily for three days. Of course, the usual dietetic measures were not neglected. During these three days she did not vomit. She ate fairly well, and began to feel stronger and be more cheerful. On the evening of the third day of my treatment a female relative came to see her, and expostulated with her concerning the treatment, saying that the doctrines of the Catholic Church were opposed to hypnotism and mesmerism, and that she would be excluded from confession if she were to continue. This threat naturally excited her greatly, and so preyed upon her mind that she began to vomit again. The husband went to her spiritual adviser, and he confirmed what her relative had said. I received notice to cease my treatment.

On the fifth day following I was called in again. The priest had been there that morning, had seen the continuous vomiting, the blood-shot eyes, the blood oozing from nose and mouth, and thereupon obtained a dispensation from the bishop of the diocese, so that the treatment could be recommenced. Hypnotic suggestion again stopped the vomiting immediately. For two days she enjoyed this tranquillity, when suddenly and spontaneously labor set in, and she was delivered of her child in a few hours. The suggestive treatment, now unnecessary, was stopped. During the puerperium it turned out that the catarrhal symptoms which she had manifested during pregnancy were but the forerunners of acute tuberculosis, which caused her death four weeks later. During this last sickness Dr. A. Jacoby was called in consultation, and it was his opinion that the vomiting was due to tuberculosis. Whatever its cause, the fact remains that the vomiting was cut short by suggestion, and, perhaps, if earlier resorted to for relief of the symptom, it would have prevented the tuberculosis making such headway.

CASE III.—Mrs. W., twenty years old, had already been relieved of a long-standing illness by hypnotic suggestion when she became pregnant for the first time. The first months of pregnancy passed off well; there was only occasional vomiting. In the fifth month, however, she began to reject all food. After suffering four days she sent for me. A single suggestion in deep hypnosis sufficed to change her condition. The vomiting ceased entirely.

The other two abnormalities of pregnancy, loss of appetite, and the craving for articles not to be regarded as food, can be readily relieved by suggestion, even though the hypnotic condition into which the patient is brought is not deep. I could support this assertion by illustrative cases, but shall abstain from doing so in order not to unduly prolong this paper. In labor, also, hypnotism can be used to advantage. I have not had the opportunity to use it in complicated cases, such as those requiring version or the use of the forceps. I do not doubt, however, that in patients belonging to the fifth class, to be mentioned below, suggestion may be successfully employed when operating, but in cases in which hypnotism may be used successfully, it has a decided advantage over chloroform, the disadvantages of which I need not here recount to you.

In studying the effects of suggestive therapeutics in normal labor we may divide the patients into five classes: The first class comprises the patients who cannot be hypnotized; the second class includes those patients who only sleep superficially, awakening at the very first pain, but with whom the suggestion has a decided post-hypnotic effect. To the third class belong the patients who sleep deeply, but in whom the sensation of pain overcomes the suggestion, so that when it becomes violent they wake up. There is amnesia for everything that happens intrahypnotically, as well as the post-hypnotic effect of the pain being much less than the circumstances would appear to warrant. In the fourth class we may place those who sleep very deeply. These do not wake up; the whole labor is conducted intrahypnotically. After awaking there is perfect amnesia. The fifth class comprises those patients with whom the post-hypnotic effect of suggestion is all-powerful, so that though labor is going on in a waking condition pain is absolutely not felt.

My experience is rather limited here. I have tried hypnotism in forty-six cases only. Nine patients could not be hypnotized at all, 11 slept superficially with post-hypnotic effect, 15 slept deep with intrahypnotic and post-hypnotic effect, 10 had a very deep sleep with perfect amnesia upon awakening, and 1 was awake but felt no pain at all. I may add that the twenty patients belonging to the first and second

class were mostly women of nervous temperament and such who were biased against hypnotic measures. Almost all of them expressed a fear lest something would befall them during sleep. I shall cite an illustrative case in each of the last four classes.

CASE IV.—Mrs. B. L., thirty years old, German, of nervous temperament, third pregnancy. Came to me at the middle of the eighth month of her pregnancy. She had heard of hypnotism, and said she would like to make use of it, as her two former confinements had caused her a great deal of suffering. I hypnotized her at once. She went into the second degree of Bernheim's classification, and I suggested to her that in her third confinement she would have no pain. Before her confinement I hypnotized her three times more. The sleep was never deeper than the second degree, and each time I renewed the suggestion of a painless confinement. March 14, 1895, at 8 P.M., she began to have labor pains. I hypnotized her once more, again only to the second degree, and suggested that the bearing down would increase every time, but that she would feel no pain. Though the contractions of the uterus came on with fair regularity, the patient experienced little or no pain, but woke up with the first stronger contraction. At 8.45 P.M. the os was dilated to the size of a silver dollar; at 9.30 the dilatation was of twice that size. From this time on the contractions were more frequent, coming on every three or four minutes. Each time she had some pain, but it was so moderate that she complained of labor progressing so slowly. Nevertheless, at 10.30 the os was entirely dilated and the membranes ruptured. Now came a lull for about ten minutes, after which the contractions came on again with increasing strength, and were accompanied by considerable pain until at a few minutes before 11 P.M., the child was born. She said that in comparison with her former confinements she did not suffer at all.

CASE V.—Mrs. Bertha H., twenty-eight years old, German, married ten years, third pregnancy, five years after the last; robust; had never been sick. Up to the time of labor I hypnotized her three times. She went into a deep sleep with amnesia upon awakening on suggestion only. She was, therefore, in the seventh degree of Bernheim's classification. June 9, 1895, 6 A.M., labor set in. I arrived an hour later and hypnotized her. The pain that had previously accompanied every contraction disappeared on suggestion. The contractions came on rather slowly, so that at 10 A.M. the os was dilated only to the size of a silver dollar; suggestion seemed to have but little influence on the intensity of the contractions, but she felt no pain. I then left her for about two hours and a half, returning at 12.30 P.M. The os was dilated to about twice its previous size, but the contractions had ceased about half an hour before. She seemed to sleep only superficially. I awoke her and hypnotized her again. She then slept more deeply. I suggested that the uterus would contract again more strongly in three minutes, and that at the time of bearing-down she would help along with the abdominal muscles. The suggestion was now successful. From this time on the contractions became regular, frequent, and strong, but still there was no pain. At 2 P.M. the os was entirely dilated and the membranes ruptured. A few minutes later, at the height of a contraction, she seemed to have great pain and woke up. I could not put her to sleep again. The bearing-down, now growing still stronger, was always accompanied by pain, but, curiously enough, not as great as that which awakened her. This could only be accounted for as being the post-hypnotic effect of the former suggestions. The expulsion of the child followed fifteen minutes later. She could not remember anything that happened up to the time of her awakening.

CASE VI.—Mrs. I. K., thirty-two years old, born in Hungary, fourth pregnancy. I had hypnotized her repeatedly before for another affection. She always went into the deepest sleep possible. I was called October 21, 1895, at 12 M. She had had some labor pains since morning. At 11 A.M. they had grown stronger, and she sent for me, but a short time before I arrived the pains ceased entirely. On my arrival I ascertained that the os had dilated to about an inch in diameter. I then hypnotized her. On suggestion, the contractions of the uterus began again and continued regularly as commanded. Drs. Morvay-Rottenberg, Sigismund Cohn, and Mandel, whom I had invited, were alternately present. This patient, although in deep sleep, seemed to have some pain with each contraction. She acted as if she suffered, but when asked if she did, said that she felt the bearing-down and had then an uncomfortable feeling, but no pain. She conversed cheerfully upon different topics, there being only a slight interruption in her speech, a twitch of the facial muscles, or sometimes a groan to tell me that the uterus was contracting and that she was helping it along. On inquiry she always denied having pain. At about 4 P.M. she complained of some pain in the right side, but gentle friction of the site made it disappear. About 4.50 P.M. the membranes ruptured, and a few minutes later the head came down to the perineum. The contractions now became so strong and the pressure so great that I had to suggest that they become weaker in order to preserve the perineum. The bearing-down immediately became less strong, though still sufficient to dilate the vulva. A little after 5 P.M. the child was born, and five minutes later the placenta came away spontaneously. After the patient had been washed and made comfortable I awoke her. She was astonished to find herself delivered, and although she had been told before awakening that she had given birth to a boy, she had to ascertain the sex of the child anew. There was perfect amnesia for everything that transpired since I had put her to sleep.

CASE VII.—Mrs. I. L., thirty-four years old, fifth pregnancy. I had delivered her hypnotically once before. Sleep was the deepest possible. I hypnotized her once in the sixth and once in the seventh month of her pregnancy, each time suggesting that she would feel no pain at all at her next con-

finement. I was called December 19, 1897, at 7 P.M. I invited Professor Henry J. Garrigues and Dr. Leon F. Garrigues to accompany me, they having expressed a desire to witness a confinement under such conditions. We arrived nearly an hour later, and learned that the child had been born and the placenta expelled rapidly about half an hour before the time of our arrival. Upon inquiry the mother told us that she had felt some movements in her abdomen during the morning. At the beginning she felt these movements only once in two or three hours, but later on more frequently; sometimes they resembled the usual movements of a child, and at others they were like the cramps occuring in connection with a slight attack of diarrhea from which she had been suffering during the previous two days. At no time did she have the slightest pain, and she had no idea that labor had set in. She felt well and walked around, performing her household duties. A little before 7 P.M. she felt a great weight and pressure about the vulva, and soon after a gush of a large quantity of water occurred. On mentioning this to her husband, quite an intelligent man, he recognized her condition and told her to lie down. He scarcely had time to call and send some one to telephone for me, when the head appeared, and the husband had to assist her in the delivery. He called in a woman from the neighboring room, and when she arrived the placenta was being expelled. Throughout all this no pain whatever was experienced, simply an uncomfortable feeling. The suggestion given two months previously had acted only too well, and I was sorry not to be able to give my colleagues an opportunity to witness the efficacy of suggestion in labor.

Summing up what these cases, and others of which I have record, show, we can deduce the following: (1) That, though the sleep be not deep, enough influence can be gained to moderate or entirely banish pain. (2) That in deep sleep we can not only stop the pain, but we can by suggestion intensify or weaken the uterine contractions. (3) We can thus avoid the use of forceps in many cases in which uterine contractions have ceased. (4) That the use of chloroform can be restricted to more complicated cases of labor.

The conditions of the puerperium which can be favorably influenced by suggestion are: After-pains, lactation, peristaltic movements of the bowels, puerperal paralysis, and puerperal mania. After what has been said above it is quite obvious that suggestion may moderate or abolish after-pains, the cause of which is simply the gradual contraction of the uterus in the process of involution. In nearly all my cases the after-pains yielded to one suggestion; in some it was necessary to repeat the suggestion two or three times before they ceased permanently.

It is a well-known fact that psychic disturbances will affect lactation. Anger, sorrow, fright, and worry will change the secretion of the milk not only in quality but also in quantity, even to the extent of suddenly drying up the breasts. On the other hand, easy circumstances and cheerful surroundings will affect lactation favorably. Hypnotic suggestion acting as strongly, or sometimes even stronger, than the natural emotions, it may be made use of either to increase or decrease the secretion of the milk. In Case VI. this was especially noticeable. On the ninth day after parturition the breasts became swollen, so that they felt painful, although the milk was oozing from them in sufficient quantity to wet the patient's clothing. One suggestion was sufficient to reduce the quality of milk to the normal. It seems that the suggestion acted too strongly, for after three weeks she sent for me in order to tell me that she had only scanty nutriment for her child. I hypnotized her, and suggested that the breasts would fill within half an hour, and the quantity of the milk would continue to be more abundant. I waited for the result. I could almost see the breasts filling, and at the end of half an hour the order was complied with. She never had any trouble with the breasts again.

The peristaltic action of the intestines can easily be influenced, and sleep is readily procured by means of suggestion. Puerperal paralysis, if not dependent on cerebral hemorrhage, albuminuria, or traumatism, is amenable to suggestive treatment. Van Renterghem, Grossman, aud Vogt mention numerous cases of puerperal paralysis cured by suggestion. I have had only one case in which a puerperal paralysis of three-weeks' standing readily yielded to suggestive therapeutics. Intellectual disturbances occurring during the puerperium, as well as those that appear during pregnancy, as melancholia and mania, have been successfully treated by means of hypnotic suggestion. Ladame and Dumontpallier report several rapid cures by this method.

Many have rebelled against the biblical dictum that bearing and bringing forth of children shall be painful. Chloroform has been used to evade the so-called natural law. If I have succeeded in swelling the ranks of the rebels by pointing out a less dangerous and more pleasant means of attaining that end I shall be quite satisfied.

The Sick at Siboney.—It has been found that the convalescents in the hospital at Siboney do not recover their strength permanently, and are very apt to fall victims to a second attack of fever. It has, therefore, been decided to remove the patients from the hospitals as rapidly as they become strong enough for transportation. Of the 488 patients in the Siboney hospital, 350 are said to be in a condition which enables them to be sent home.

TOBACCO INTOXICATION, LOCALLY AND SYSTEMICALLY CONSIDERED; REPORT OF A CASE OF TOBACCO AMBLYOPIA.

BY ALBERT B. HALE, M.D.,
OF CHICAGO.

IN studying the effects of tobacco I have found not only that one must consider its general irritating properties when absorbed, but that one must reckon with its local action when sufficiently long applied. Space forbids my discussing the physiologic or local effect of acute tobacco poisoning, such as is seen in children learning to smoke, or when chewing tobacco has been accidentally swallowed, or when a tobacco poultice has been too successfully applied; nor can I dwell on the more chronic disturbances produced on the heart or stomach by the tobacco habit. I prefer to speak entirely of its effect upon the eyes, either as a local irritant to the conjunctiva or as a systemic poison causing amblyopia or a demonstrable optic neuritis.

I can best illustrate both actions by reports of cases:

J. G., twenty-three years old; for three years has

FIG. 1.

RIGHT.

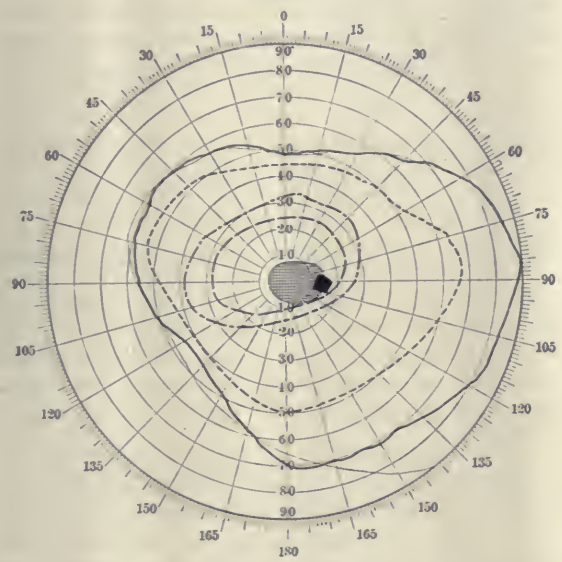
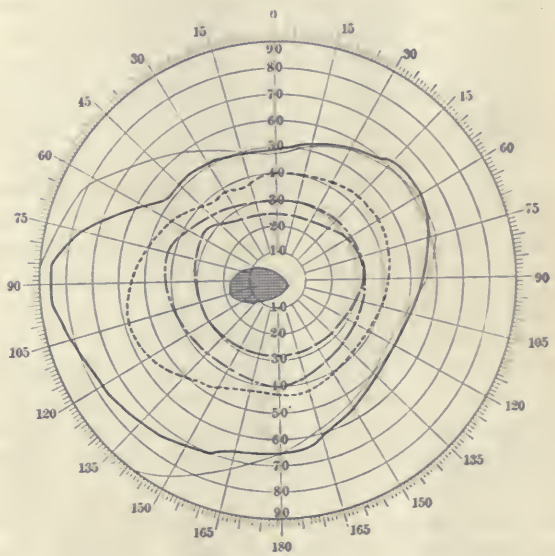


FIG. 2.

LEFT.



Solid line—Visual field. Line of dashes and dots—Field for red. Line of dashes—Field for green. Line of dots—Field for blue.

FIG. 3.

RIGHT.

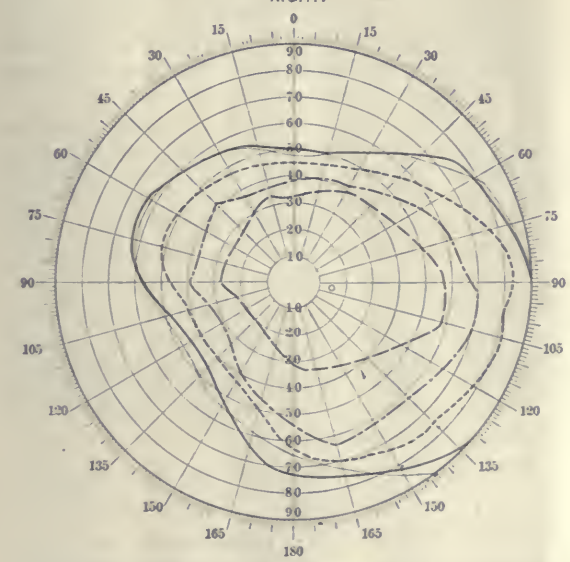
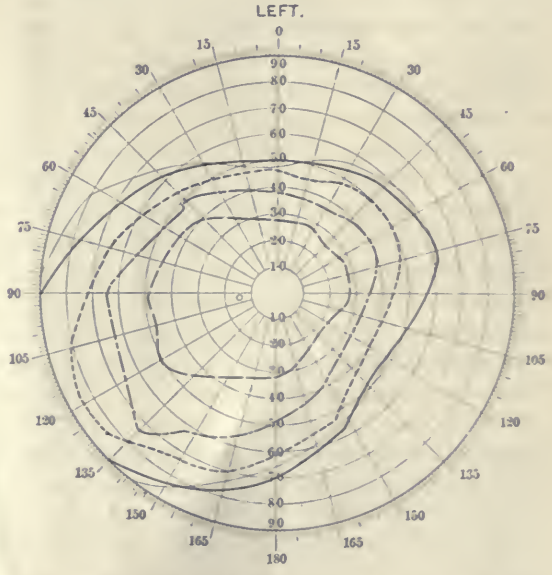


FIG. 4.

LEFT.



Solid line—Visual field. Line of dashes and dots—Field for red. Line of dashes—Field for green. Line of dots—Field for blue.

complained of redness of the eyes, with watering and itching. No refractive errors. General health good. Is occupied eight hours a day as a cigarmaker. On close examination the odor of tobacco was evident, while the dust could be seen on his clothing and in his hair. The conjunctivæ were red and injected, and there was constant lacrimation, not causing decided epiphora but enough to keep his eyes swimming in tears. I could not make a diagnosis of conjunctivitis, for there was no history leading to such an inflammation, nor were the physical signs present. It could be due to nothing but a constant irritation from the tobacco dust.

Such cases I can report by the dozen from dispensary and private practice, and my experience has been extensive enough to allow me to classify this as an "occupation disease."

As to treatment I need say little. Cleanliness, correction of refractive error when present, good air, and repeated bland washings of the eye during the day is all that can be done unless the patient will find other work. The best results have come from washes of boric-acid solution, two per cent., or of ichthyol solution, two per cent., or salve, frequent repetition of the medicine being, in my opinion, as important as the selection of the drug.

The pathology of this affection is simple. It is a continued local irritation by a foreign substance that produces and maintains an unhealthy hyperemia in the conjunctiva. Quite different, however, is the pathology of that condition known as tobacco amblyopia, which, as far as it can be explained at all, is an optic neuritis of a rather unique type. On pathologic grounds alone I was at one time skeptical about the distinctness of a tobacco neuritis. Many men even to-day, in Germany and England, deny the occurrence of such a tobacco poisoning, and claim that there must always be alcohol associated with tobacco in order to cause neuritis. Thanks, however, to Wood of Chicago and De Schweinitz of Philadelphia, we, in America can avoid this error. Still their argument is a simple one; we know that alcohol causes a definite neuritis, peripheral in some cases, affecting more the nervous trunk or the central nervous system, in others, but not necessarily restricted to one nerve, and that too, a nerve of special sense. There is, consequently, a pure alcohol optic neuritis; but why should tobacco neuritis always attack the optic nerve and no other, whenever it determines to irritate a nerve trunk? The only other nervous phenomenon caused by tobacco is functional tremor, probably a mere accompaniment of the general depression of health due to excessive smoking, yet the latest pathologic researches leave no doubt that tobacco neuritis is a true inflammatory process.

Whatever may be the logic of pathology, experience and careful examination must displace theory, and I take this opportunity of narrating such a perfectly pure case of tobacco amblyopia, with cure, that my own skepticism is overcome, and I hope that it may be as instructive to others as to myself. Cases on the border-line are not hard to find; workers in tobacco often complain of poor vision, but in them the conjunctival irritation and the unhygienic surroundings are factors, while in almost all cases of such amblyopia in public and private practice there is a history of tobacco combined with alcohol.

Mr. W., aged fifty-eight years, merchant, never smoked until he was twenty-six, when he took to Egyptian cigarettes. He persisted in the use of these for six years, smoking about ten a day. After an illness of some weeks he discovered a dislike for tobacco and ceased smoking for five years. He then began on cigars and smoked for five years. Then he stopped for six years—to 1887. Since this time, for the last ten years, he has smoked constantly —cigars—and of late has used any brand handy, smoking all day. He never touched a drop of distilled liquor in his life. In Germany, twenty-five years ago, he tried light wines, but could never acquire a taste for them. He has ordered a glass of beer every few months for company's sake, but could not drink it. In all respects he is a very healthy man, free from bad habits, and active in every out-of-door sport. He has always worn glasses, being slightly near-sighted.

In May, 1897, his sight began to fail; he first noticed that he could not see well at a distance even with his glasses, and that he was criticised for neglecting his acquaintances on the street. He remarked that when he got close to a person and tried to look directly at a face it seemed dim and cloudy. An optician of whom he had bought glasses (and this is a good example of the mischief opticians may cause by trying to correct everything in sight instead of referring patients to the ophthalmic surgeon) changed his lenses, and told him it was increasing age and that he would soon recover!

In October, 1897, I first saw him professionally, and his great complaint was that he could not see to shoot birds! His business he had given up for some time. The examination resulted as follows: Vision —right eye, 6/36; left eye, 6/18; no improvement by any lens. No astigmatism by ophthalmometer. Pupils 1½ mm., and iris refused to react to light or accommodation. To see the fundus I was obliged to dilate the pupil with scopalein, and I then saw that lens and retina were normal, the only possible disturbance being a cloudiness of one-third of the edge of the optic disc. The field of vision is illustrated in the diagrams appended.

Here then are the classical signs: (1) contracted pupil; (2) reduced vision; (3) clouded disc; (4) central scotomata for vision and colors. I at once stopped the tobacco but made no other change.

Strychnin, beginning at $\frac{1}{60}$ of a grain hypodermically was given once a day, increasing daily by $\frac{1}{100}$ of a grain until $\frac{1}{8}$ of a grain a day was reached (even this produced no physiologic effects). On this dose he was kept for five weeks. Improvement began at once on cessation of the tobacco. On November 3rd, vision (with both eyes, and with a correcting sphere of —0.75D.) was 6/15; on November 10th, 6/9; on November 26th, 6/8; on December 21st, 6/5, and from this time on he could read and write continuously and with comfort. Since then he has retained perfect vision, can attend to his business, and can see to shoot ducks better than ever. The strychnin was stopped long ago and smoking not recommenced. I am convinced that this was a pure tobacco amblyopia—a toxic tobacco optic neuritis, and nothing will ever shake my conviction.

THE EFFECT PRODUCED UPON THE BLOOD BY VACCINATION.[1]

BY JOHN S. BILLINGS, JR., M.D.,
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COMPARATIVELY little work has been done upon the subject of the blood in vaccinia. The writer has failed to find any report of the effect produced upon the number of the red and white corpuscles of the blood by vaccination. Two observers, however, have reported the presence of foreign organisms in the blood in this condition. Pfeiffer, a somewhat unreliable observer, states in his book, published some years ago, that he has found unicellular bodies in the blood of cases of vaccinia and smallpox, and suggests these to be causally related to those diseases. Reed,[2] following Pfeiffer's observations, has studied the blood of children and monkeys before and after vaccination. He found small round bodies in the blood, from seven to ten days after vaccination, about the size of the small mononuclear leucocyte, but differing from it, however, in being granular and actively ameboid. Pale, transparent ameboid bodies of about the same size were also observed. These bodies were observed free in the plasma and were very few in number, specimens of blood being often examined for an hour before one could be found. Reed throws some doubt upon the value of these observations by stating that in one instance similar bodies were observed in the blood of an unvaccinated monkey, and he admits their presence in normal blood. Reed's article was published after the completion of the observations recorded in this report. It is possible that the writer's failure to find the bodies observed by Reed may be due to the fact that his observations of the blood were confined to the period preceding and up to the time of complete maturation of the vaccinia pustule. Reed states that the ameboid bodies noted by him are most plentiful at a later period.

The results of the examination of the blood in fourteen cases of vaccinia are here reported. Several more were examined, but only those cases are reported in which the vaccination was successful. Some of the patients were seen at the Dispensary of the Presbyterian Hospital, while the remainder were kindly sent by outside physicians. The examinations of the latter were for the most part made at their homes, some, however being brought regularly to the examiner's office. The technic was that described in the report of last year on the effect of diphtheria antitoxin upon the blood in diphtheria. At each examination fresh specimens were made and ringed with vaselin; the majority of these were very carefully examined for the bodies described by Pfeiffer and Reed, a mechanical stage being used. Dried and stained specimens (hematoxylin, safranin, etc.) were also examined to this end, but all such examinations were entirely negative. Nothing abnormal was noted; nothing even suggesting such bodies as have been described by those two observers was found.

The results of the examination of the blood in the fourteen cases will be found in the accompanying tables.

Red Corpuscles.—Vaccination seems to have no effect upon the number of red corpuscles. It is to be remembered that the limit of error with the Thoma-Zeiss hematometer is a comparatively large one, being at least 250,000 per c.cm. No changes in shape, size, or staining properties were noted in the dried and stained specimens.

Hemaglobin.—Hemaglobin, like the red corpuscles, is apparently unaffected by vaccination, no marked variation in the percentage being noted in any of the cases.

Leucocytes.—Vaccination produced a moderate but well-marked increase in the number of the leucocytes in thirteen out of the fourteen cases. In only one instance did the number of leucocytes reach 20,000 per c. mm. (Case 5). This case was interesting as showing the greatest systemic reaction to vaccination. This was probably due to the anemia and general lack of resisting power. It is well known that cases of acute suppuration in enfeebled individuals show higher leucocytosis than similar cases in strong healthy persons. As a rule, the number of leucocytes ranged at about 15,000 per c. mm. The rise took place gradually, an increase

[1] From the Bacteriological Laboratories of the New York Health Department.
[2] *Journal of Experimental Medicine*, p. 515, September, 1897.

No.	Age.	Sex.	Red Corpuscles.	White Corpuscles.	Proportions of Various Forms of White Corpuscles.					Remarks.
					Hemoglobin.	Polynuclear Neutrophiles.	Large Mononuclear Form.	Small Mononuclear Form.	Eosinophiles.	
					Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	
1	1 year 6 mos.	F.	5,830,000 Vaccinated.	9,300	98	74	6	18	2	Well nourished. Healthy.
			5,910,000	9,800	98	73	5	20	2	Arm was red and tender on the second day. Pustule reached its height on the eighth day.
			6,020,000	8,300	95	70	8	21	1	
			5,731,000	11,600	99	72	7	19	2	
			5,986,000	13,100	98	77	6	14	3	
			5,880,000	10,800	96	..	..	..	..	
			6,310,000	15,600	96	..	..	..	..	
			5,821,000	14,700	99	76	10	13	1	
			5,752,000	16,100	100	..	..	..	..	
			5,981,000	13 300	97	..	..	..	..	
			6,183,000	8 800	98	69	8	22	1	
			5,875,000	10,500	99	..	..	..	..	
2	2 years 4 mos.	M.	5,111,000 Vaccinated.	8,600	89	68	4	27	1	Sparely nourished, but healthy child. Slightly anemic. No redness until third day. Pustule reached its maximum on the seventh day.
			5,361,000	8,500	91	70	6	21	3	
			5,287,000	7,300	88	..	..	..	..	
			4,961,000	9,400	89	71	5	20	4	
			5,387,000	13,400	88	..	..	..	..	
			4,720,000	14,200	92	74	8	16	2	
			4,985,000	13,900	90	..	..	..	..	
			5,008,000	16,900	61	73	6	18	3	
			4,771,000	6,300	88	..	..	..	..	
			4,864,000	10,100	88	70	6	21	3	
3	2 years.	M.	6,281,000 Vaccinated.	8,600	101	78	11	10	1	Large robust child. Redness and tenderness of arm on second day. Maximum on sixth day.
			6,103,000	6,400	98	..	..	..	..	
			6,489,000	7,300	100	..	..	..	..	
			6,063,000	10,200	94	..	..	..	..	
			6,392,000	11,100	96	79	3	16	2	
			6,061,000	8,800	98	73	6	20	1	
4	6 years.	F.	5,332,000 Vaccinated.	6,300	95	81	7	19	2	Fairly nourished child. Redness of arm in thirty-six hours. Maximum about seven days. Pustule small.
			5,188,000	9,600	94	..	..	..	..	
			5,672,000	12,800	93	..	..	..	..	
			5,001,000	11,600	96	79	2	18	1	
			5,339,000	12,400	98	75	4	18	3	
5	1 year.	F.	4,062,000 Vaccinated.	10,200	78	65	5	28	2	Very poorly nourished, anemic child. Redness in twenty-four hours (?). Large pustule. Maximum on eighth day.
			3,816,000	14,600	79	..	..	..	..	
			3,734,000	18,700	76	..	..	..	..	
			3,962,000	19,200	73	78	6	13	3	
			3,661,000	21,600	79	81	4	14	1	
			3,983,000	13,300	80	76	7	15	2	
6	1 year 9 mos.	F.	5,381,000 Vaccinated.	9,600	93	73	9	14	4	Fairly nourished child. Redness on second day, and maximum on seventh day.
			5,196,000	8,400	95	..	..	..	..	
			5,022,000	7,200	94	76	6	13	5	
			5,556,000	9,900	95	..	..	..	..	
			5,061,000	6,300	92	78	8	8	6	
7	3 years.	M.	4,996,000 Vaccinated.	9,700	98	69	3	27	1	Fairly nourished. Redness on third day, maximum of pustule eighth day.
			5,376,000	13,200	95	68	11	20	1	
			5,088,000	11,600	96	..	..	..	..	
8	2 years.	F.	5,819,000 Vaccinated.	7,900	98	73	8	17	2	Well-nourished child. Redness in thirty-six hours. Maximum of pustule on eighth day.
			5,826,000	12,800	96	76	12	10	2	
			5,973,000	8,200	97	70	9	20	1	
9	1 year.	M.	5,006,000 Vaccinated.	10,300	90	61	13	23	3	Rather poorly nourished child. Redness on third day. Maximum of pustule on seventh day.
			5,317,000	8,600	89	..	..	..	..	
			4,981,000	15,000	92	70	10	19	1	
			5,169,000	9,700	92	65	10	22	3	
10	9 months.	F.	6,810,000 Vaccinated.	10,600	100	78	3	17	2	Stout, healthy baby. Redness on second day. Maximum of pustule on sixth day.
			6,971,000	15,300	101	..	..	..	..	
			6,562,000	18,700	99	83	2	15	0	
			6,666,000	9,400	99	80	6	12	2	

No.	Age.	Sex.	Red Corpuscles.	White Corpuscles.	Proportions of Various Forms of White Corpuscles.					Remarks.
					Hemoglobin.	Polynuclear Neutrophiles.	Large Mononuclear Form.	Small Mononuclear Form.	Eosinophiles.	
					Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	
11	1 year 2 mos.	F.	5,738,000 Vaccinated.	8,200	99	83	6	20	1	Well-nourished child. Redness on second day. Maximum of pustule on sixth day.
			5,687,000	11,300	97	81	9	19	1	
			5,431,000	6,100	98	76	10	13	1	
12	2 years.	M.	6,037,000 Vaccinated.	5,400	92	78	8	12	2	Rather poorly nourished child. Redness on third day. Maximum of pustule on eighth day.
			6,002,000	12,800	92	81	6	12	1	
			5,893,000	7,300	92	71	9	17	3	
13	1 year 6 mos.	F.	5,861,000 Vaccinated.	8,100	90	70	9	16	5	Fairly nourished child. Redness on second day. Maximum of pustule on sixth day.
			5,577,000	13,300	89	73	8	15	4	
			5,601,000	12,900	93	63	12	19	6	
14	8 months.	M.	6,372,000 Vaccinated.	7,300	96	71	5	23	1	Well-nourished child. Redness on third day. Maximum of pustule on ninth day.
			6,088,000	10,600	95	..	..	..	..	
			6,231,000	14,100	94	70	4	25	1	
			6,383,000	15,100	98	74	8	16	2	
			6,164,000	9,400	98	61	3	35	1	

to a point above the normal being usually first noted on the day on which the arm began to be red and tender at the point of inoculation. From this on the number of leucocytes slowly increased, reaching its maximum at about the same time as the pustule at the point of inoculation (sixth to eighth day), and falling again to normal by lysis, taking two to four days to do so.

In cases 1 and 2 the blood was examined within an hour after vaccination, in order to determine whether any preliminary decrease in the number of the leucocytes took place (leucocytolysis). None was noted, but a series of observations would be necessary to determine this point. It is unlikely that any leucocytolysis does occur, the effect of vaccination upon the system being so gradual that the usual driving off of the leucocytes into the capillaries does not occur. This view is confirmed by the experiments of Goldscheider and Jacob, who found that small quantities of bacterial toxins injected at intervals did not bring about a leucocytolysis. No changes in the morphology of the leucocytes were noted in the stained specimens. Differential counts of the various forms of leucocytes showed the increase to be in the so-called polynuclear neutrophiles, so that the leucocytosis occurring in vaccinia is one of the so-called inflammatory or pure leucocytoses, such as occur in pneumonia, suppuration, etc. Considering what a local process vaccination is, we must consider an increase in the number of the leucocytes to 15,000 per c. mm. relatively high. A local staphylococcus infection of the same extent would not give rise to such marked increase in their number.

Conclusions.—1. A moderate, but well-marked leucocytosis occurs in vaccination. It is a simple inflammatory leucocytosis, its maximum coinciding with the height of maturation of the vaccinia pustule.

2. Vaccination has no effect upon the number of red corpuscles, nor upon the percentage of hemoglobin.

3. These observations furnish no proof of the occurrence of the bodies found by other observers, and supposed by them to be causally related to vaccinia and variola.

CLINICAL MEMORANDA.

SOME UNUSUAL TUMORS OF THE ORBIT AND VICINITY.[1]

BY CHARLES STEDMAN BULL, M.D.,
OF NEW YORK.

CASE I. *Cysticercus Cyst of the Lower Lid.*—The patient was a boy, aged six years, born in New York of Italian parents, and was first seen by me at the Eye Infirmary on February 14, 1897. There was a small tumor in the subcutaneous cellular tissue, just below the lower lid on the right side, about the size of a small filbert. The skin was of normal appearance and freely movable over the tumor. The latter was smooth, non-lobulated, painless, and elastic, and looked like an ordinary fatty tumor, which was the diagnosis made. The eyes were healthy, and there was no other abnormality about the child. The tumor had been noticed about three months and had never occasioned any inconvenience, It was removed without the slightest difficulty by an incision about half an inch long, and was shelled out of its bed like a pea out of its

[1] Read at the Thirty-fourth Annual Meeting of the American Ophthalmological Society, held at New London, Conn., July 20 and 21, 1898.

pod. Two stitches closed the wound, which healed completely in twenty-four hours. The entire interest of the case centers in the microscopic examination, kindly made for me by Dr. Dixon, one of the pathologists to the Infirmary, who reports as follows:

At first glance the tumor appeared to be an echinococcus cyst, but more prolonged and careful study gave evidence in favor of its being a cysticercus cyst. The scolex was single. The hooklets were perfectly formed, and corresponded in size and number more nearly to cysticercus cellulosæ. The suction discs were more prominent than is usual in echinococcus. The original diagnosis of echinococcus was based more particularly on the character of the lining membrane of the cyst, which suggested the formation of daughter cysts. Owing to the confusion which exists among helminthologists as to the early cysticercus stages of both tænia solium and tænia echinococcus, it is difficult sometimes to reach a definite conclusion.

CASE II. *Fibrolipoma of the Accessory Lacrimal Gland.*—The patient was a boy, aged six years, whom I first saw at the Eye Infirmary on October 13, 1897. The father, who came with the patient, stated that he had first noticed a small lump on the outside of the eye near the external angle, eighteen months before, and another small lump on the corneal margin downward and inward. The first lump slowly increased in size and extended backward along the eyeball. On examination the latter was seen to hug the left eye closely in the superotemporal region, was about as large as a lima bean, flattened and colorless. The small growth on the corneal margin closely resembled an ordinary dermoid tumor, and a diagnosis was therefore made of dermoid tumor of the eyeball and orbit. The eye was normal in every respect. The tumor on the temporal aspect of the globe was removed through a conjunctival incision without much difficulty, the conjunctiva being carefully dissected away from it. The only firm point of adhesion found was at the upper and outer angle of the orbit. The cavity left by its removal was then carefully washed out and examined, but nothing abnormal was found. The conjunctiva was then carefully brought over the exposed sclera, and the wound closed by three sutures. The wound healed promptly, and the patient was discharged on the fourth day.

The tumor was examined by Dr. Weeks, the pathologist of the Infirmary, who reported that it was a fibrolipoma of the accessory lacrimal gland.

CASE III. *Dermoid Tumor of the Eyeball Complicated by a Malignant Intra-ocular Growth.*—The patient was a female infant who, when first seen, January 18, 1897, was one month old, and according to the mother's statement, was born with the existing condition of the eye. It was the mother's first confinement, and the labor was natural. The inner half of the cornea of the right eye was opaque and thickened. There was a small dermoid tumor of the eyeball in the inferotemporal quadrant, from which grew several hairs. The lower conjunctival cul-de-sac and the inner end of the lower lid were densely infiltrated, very pale, and felt like brawn. The appearance was that of a myeloid infiltration. The lens was clear and the visible portion of the fundus looked normal. The iris was dilated and did not react to light. There was neither conjunctival nor ciliary injection, nor any sign of irritation or pain, and the child seemed in excellent physical condition. Between January 18th and March 10th, there was a considerable increase in the size of the apparent dermoid tumor, and on the latter date an intra-ocular growth was made out downward and inward. By the end of March two apparent staphylomata appeared in the equatorial region, one inward and one directly downward, over which the sclera was very thin. At this time the anterior chamber was abolished, the iris lying directly against the cornea. Tension was +1, but there were no signs of irritation. The parents were advised to have the eye enucleated but refused the operation. The left eye remained healthy throughout the entire period of observation. The child remained well all through the summer of 1897, but in November the appearance of the eye had very much altered. The staphylomatous protrusions were now enormous and seemed on the point of rupture. The pupil was blocked by the intra-ocular growth, and the tension had still further increased. Sometime in December the inferior protrusion ruptured, and a mass of pigmented material protruded. A portion of this was excised and examined microscopically. It proved to consist mainly of numerous small round cells, with short fusiform cells and finely granular matter, with a few blood-vessels, the wall of the latter being made up of a single layer of endothelial cells. The outer half of the cornea still remained transparent, and there was no change in the appearance of the small, extra-ocular dermoid growth. The child was seen again in January, 1898, and although pale and anemic, seemed well. The protrusion of the intra-ocular growth had increased, and the whole globe seemed more prominent. Since then the child has not been seen.

CASE IV. *Tubercle of the Eyeball.*—The patient was a female child, aged three years, who was first seen at the Eye Infirmary on February 24, 1896. There was almost no history, and the only fact elicited from the parents was that the left eye had been red and inflamed more or less constantly for about a year. The mother was a robust Italian woman, but the father was undersized, thin, and sickly in appearance. The child was the youngest of five, all the others being apparently healthy. The patient had always been delicate, had some bowel trouble as a young infant, which lasted a long time, and has from time to time returned. The child has never walked, and speaks very little and unintelligibly; lies in a semi-stupor but can easily be roused, and frets very little. There was marked conjunctival and ciliary injection, and considerable chemosis of the ocular conjunctiva, but no swelling of the lids. The cornea was slightly hazy, but the lens and vitreous were clear. There was a yellowish reflex from the fundus, which had been noticed for several weeks. There was a staphylomatous projection in the ciliary region, and another in the equatorial region on the nasal side. The eye was divergent, apparently entirely blind, and the tension was —2. The right eye was healthy. A diagnosis was at first made of glioma retinæ, and the parents were told that the eye must be enucleated at once. The marked

marasmic condition of the patient aroused the suspicions of possible tuberculosis, and this was rather confirmed by the appearance of the father, and by the fact that two members of his family had died of chronic pulmonary trouble, presumably tuberculosis. The father had at times a chronic cough with profuse expectoration.

The eye was enucleated on March 11th, and the child recovered promptly. The specimen was examined by Dr. Weeks, the pathologist of the Infirmary, who reported as follows: The globe measured 23.5 mm. in anteroposterior diameter, 24 mm. in transverse diameter, and 23 mm. in vertical diameter. The cornea measured 10 mm. vertically and 11 mm. transversely. The globe was of irregular shape with marked protrusion on the nasal side anterior to the equator, and 4 mm. from the corneal margin. The cornea was of normal thickness and extent. The sclera was apparently ruptured at the site above described. The anterior chamber was filled with blood-clot and exudation. The iris was thickened and adherent to the lens capsule, and a portion was apparently absent. The lens was of normal size. The retina was detached and disorganized. The choroid was greatly thickened, and only traceable over part of its extent. The interior of the vitreous chamber was occupied by a relatively firm grayish mass. Microscopically, the cornea was infiltrated with small cells. In the sclera the connective-tissue bundles were separated by an infiltration of small cells. At the region corresponding with the staphylomatous protrusion the sclera was wanting. The anterior chamber was filled with old blood-clots and blood-pigment, partly broken down blood-corpuscles and fibrinous masses. It was densely infiltrated with small cells, and covered by an inflammatory pseudomembrane on both surfaces. The lens was intact. The retina was completely disorganized. The choroid and ciliary body were greatly thickened by the presence of a large number of small cells resembling leucocytes. A few of the large vessels could still be recognized. In some parts of the eye all traces of the choroid had disappeared. The mass of tissue which filled the vitreous chamber and protruded through the opening in the sclera was composed largely of leucocytes, short fusiform cells, granular detritus, and giant cells. Nodular masses were scattered here and there throughout this tissue, which had the structure of tubercle, the cells being more or less concentrically arranged at the periphery; giant cells were present, and there was some granular detritus at the center of the nodules. There were but few blood-vessels. No tubercle bacilli were found, but nevertheless the new formed tissue was in all probability tuberculous.

The patient remained in about the same condition for four or five months, and then died of what was said to be abdominal tuberculosis.

CASE V. *Sarcoma of Eyelids, Orbit, Cranial Bones, and Neighboring Cavities of Traumatic Origin.*—The patient was brought to me from a distant city, and the case is interesting because of its rarity. The patient was a boy, aged three years, whom I first saw on November 1, 1896. The parents stated that the child had always enjoyed robust health, and as yet had had none of the usual illnesses of childhood. In the preceding June (1896), while playing about the yard, he had run against a gate-post and struck the left side of his face and left eye a violent blow. There was no laceration of the skin, but extensive bruising and subconjunctival ecchymosis. The eye remained red and inflamed for about two weeks, and then slowly grew better, and nothing abnormal was noticed in the child's appearance until the last of September, more than three months after the accident. Then the eye began to protrude and became limited in motility, and the lids seemed stiff and could not be closed over the globe. When I saw the child, the exophthalmus was very marked, the protrusion being forward and outward, and the eye was almost immovable. The lids only partially covered the globe, but presented nothing abnormal. A distinct tumor could be felt on the nasal side of the orbit, as far back as the finger could reach. The media were clear and the iris reacted promptly to light, but the ophthalmoscope showed a papillitis with hemorrhages.

The parents were told that there was a tumor in the orbit, that the case was very grave, and that the eye and contents of the orbit should be removed at once. After consultation they consented to the operation, and the eye was enucleated. A growth was found filling the entire apex of the orbit, and extending along the roof and inner wall. The entire contents of the orbit, including the lacrimal gland and periosteum, were carefully and thoroughly removed, and as there was very free oozing from the bone, the orbit was tamponed with aseptic styptic cotton. The child recovered promptly from the operation, and was sent home in two weeks. Early in January, 1897, the growth returned on the inner wall of the orbit, and on the 14th a second operation was performed on the orbit and all the apparent diseased tissue was removed. At that time the neighboring cavities did not seem to be involved, and the apex of the orbit looked healthy. The child did very well for nearly two months, and then the disease again showed itself in the apex of the orbit, and the lids became infiltrated and swollen. By the middle of April the entire orbit was filled, both lids were enormously swollen and densely infiltrated, the infiltration extending in a nodular manner upon the forehead and down upon the cheek. I declined further operative interference, not only because of the rapid extension of the growth, but also because the child showed a decidedly cachectic appearance, and was much emaciated. The little patient lived until the end of July and died apparently from exhaustion, there being no head symptoms up to the end of life.

These cases of malignant disease of the orbit and bones in children, apparently originating in traumatism, are not common. The eyeball, on microscopic examination, showed the usual signs of a papillitis, but there was no trace of malignant disease found anywhere in the globe or optic nerve. The tumor of the orbit was a myxosarcoma, the bulk of the growth consisting of small, round cells, while the lids and nodules on the forehead and cheek, examined after death, proved to be sarcoma of the small-cell variety. At the autopsy the growth was found in the ethmoid cells, the sphenoid antrum, the sphenoidal and sphenopallatine fissures, and the upper nasal meatus. and the temporal and frontal bones.

REPORT OF THREE CASES OF STONE IN THE KIDNEY.[1]

By J. J. BUCHANAN, M.D.,
OF PITTSBURG, PA.;
SURGEON TO MERCY HOSPITAL.

RENAL-COLIC, bloody urine, and tenderness over the kidney are so uniformly present in cases of nephrolithiasis that one is apt to forget that renal stones exist when one, two, or even all three of these significant symptoms are lacking. The three cases here recorded illustrate this fact in varying degrees, and show that in many obscure cases the presence of kidney-stone cannot be easily excluded.

CASE I.—The patient, a man aged thirty-eight years, had enjoyed perfect health up to September 11, 1897. In particular, he had never had any trouble with his urinary organs. When he went to his work on the evening of that day he was in his usual good health. At twenty minutes past eight o'clock he was suddenly seized with vomiting and abdominal cramps, and returned to his home, where domestic remedies were applied throughout the night without effect. In the morning he summoned Dr. T. T. Kirk, his family physician, who controlled the colic with opiates, but was unable to demonstrate any abnormality by physical examination. In a few days the pain ceased but the man's temperature continued high for a week. Vomiting was present for several days. For nearly six weeks the patient was confined to bed with variable fever and constipated bowels. During this period there was no derangement of the urinary functions. On the 23rd of October he was again seized with colicky pains and his thighs were flexed on his abdomen, especially the left one. He again had fever but no vomiting. This time his urine became scanty and high colored. An enlargement was now observed in the left iliac region, beginning at the fold of the groin and increasing upward until it finally filled the left half of the abdomen. It extended from the diaphragm to Poupart's ligament.

On November 10th I saw him in consultation with Dr. Kirk. He was extremely emaciated. He had no fever. His pulse was rapid and feeble. His left thigh was flexed and the left side of his abdomen was filled by the tense, elastic mass above described. Passing perpendicularly downward in front of this mass the descending colon could be demonstrated by percussion and sometimes even by sight and touch. On November 13th at Mercy Hospital, I opened his abdomen parallel to and above the crest of the ilium. Owing to his feeble condition, the incision was made without the use of anesthesia. The cyst being exposed the incision was packed with gauze to secure an extraperitoneal evacuation. Two days later the cyst was opened with the knife and a very large quantity of clear urine evacuated. A glass drain was inserted. The man's general condition improved at once, the cyst collapsed, and one-half his urine drained through the tube. Within a few days a calculus could be felt with a probe, but repeated efforts to seize it with forceps were fruitless. Endoscopic examinations of the interior of the pelvis of the kidney were repeatedly made and satisfactory views obtained, but the ureteral orifice, containing the stone, could not be brought into the field, apparently owing to the interference of the crest of the ilium with the endoscopic tubes.

This method of locating an obstructing stone in the upper ureteral orifice to my knowledge had not been tried before, and although it was not successful in this case, it would seem to be worthy of further trials with a more favorably placed incision. Imperfect drainage and repeated manipulations caused decomposition of the urine in the sac and elevation of temperature. It was now decided to perform median celiotomy and endeavor to extract the stone from the ureter across the peritoneal cavity. Under chloroform anesthesia a median incision was made and the course of the ureter examined, in an unsuccessful effort to find the stone. Failing in this, the stone was located by forceps passed into the dilated pelvis, and bimanual efforts at its extraction made. With the left hand in the abdominal cavity and the right hand manipulating the forceps in the dilated renal pelvis the stone could be seized but not extracted, for it was grasped through the walls of the ureter and the pelvis of the kidney. Pieces of mucous membrane were repeatedly torn away, but it at length became evident that to extract the stone at any hazard would probably result in making a hole in the pelvis of the kidney and destroying the renal end of the ureter, with perhaps infiltration of urine behind the peritoneum or loss of the ureteral function. Attempts were then made to crush the stone *in situ*, which the sequel showed were successful. The celiotomy wound was closed without drainage by my assistant, Dr. Hays. Eight days later the patient had an attack of renal colic, with severe vomiting and pulse of 136. The vomiting became fecal and almost total suppression of urine occurred. His stomach was irrigated and he was given a hot-air bath. He perspired freely, his vomiting ceased, and his urine began to flow. The discharge of urine from the fistula notably diminished and an injection of methyl blue into the pelvis of the left kidney promptly stained the urine from the bladder and showed that the left ureter was again pervious. Symptoms pointing to the presence of a small stone in the bladder soon showed themselves, and later, symptoms of its passage *per urethram*. Owing to lack of observation the fragments of stone were not recovered. Four weeks from the date of the last operation the patient left the hospital convalescent, weighing 80 pounds. He is now in good health and weighs 151 pounds.

CASE II.—The patient was a boy, aged eighteen years. He never was robust; had typhoid fever four years ago. No other serious illness. The present trouble began in February, 1897. At that time, while at school, he noticed a slight, dull pain in the left loin, which in a few days was followed by a swelling in the same place. Four or five weeks later his medical attendant, Dr. Kerr of Oakdale, opened the abscess below the twelfth rib and evacuated about half a pint of pus. After the opening of this abscess his condition improved and the pain ceased and never returned.

A fistula persisted and he was sent to me for opera-

[1] Read before the Allegheny County Medical Society.

tion. The kidney was found to be very greatly enlarged and a probe which was passed through the fistula easily discovered a stone. The urine was normal in all respects. On January 18th I enlarged the opening and extracted a stone of considerable size. Two weeks later the incision was dilated with the finger and other stones extracted and the walls of several abscesses broken through. The kidney would have been removed at this second operation had the patient's condition permitted.

On February 16th the kidney was removed through the loin by an incision parallel to the last rib and extending well forward on account of the great enlargement of the organ. The operation was very difficult by reason of the universal adhesions of almost cartilaginous consistency. The kidney could not be delivered entire owing to its bulk preventing the freeing of its anterior and inner attachments. The mass was made up of a large number of abscess cavities, the largest of which were evacuated to reduce the size. Even then the mass was so large that the kidney was removed in several parts. The ureter was narrow, empty, and normal. Owing to the matting of the capsule to neighboring parts it was impossible to make a pedicle of the vessels, and, as the mass was removed, they were torn across, but fortunately, were seized with large clamp-forceps with no great loss of blood. Seven forceps were left on the vessels and the enormous cavity packed with gauze. On the fourth day the forceps were removed. Recovery was uninterrupted and the cavity remaining is no larger than a lemon. In the pelvis of the kidney removed was a large branching calculus. The existence of such a severe condition without pain, fever, hematuria or pyuria is worthy of note.

CASE III.—The patient in this instance was a man about thirty-five years of age. He enjoyed perfectly good health until about one year ago when he began to experience a dull aching in his right loin, at times extending to the testicle and down the thigh. In July, 1897, he passed a small quantity of blood in his urine. He never had renal colic. He was attended by many physicians and finally consulted Dr. N. R. Graham of Sharpsburg who made a diagnosis of stone in the kidney and referred him to me for operation. The opinion was based on the persistent dull lumbar pain and the fact that blood had been passed on one occasion.

On examination no enlargement or tenderness whatever could be discovered. There was no rigidity of the lumbar muscles. The patient was well nourished but had been unable to work for some months on account of pain. Microscopic examination of the urine showed blood-discs and pus-corpuscles. On January 6, 1898, the kidney was exposed through the usual lumbar incision and freed from its fatty capsule. It was brought into the external wound and almost its entire surface was examined by palpation and compression between thumb and finger. An indistinct resistance was felt near the pelvis. The kidney was held in the wound and an incision made from its convexity through the renal substance into the pelvis where the stone had been located. A finger passed into the pelvis through this wound encountered the stone, which was easily extracted with slender lithotomy forceps. It was flattened in shape, 5-8 of an inch in diameter, and about half as thick. A strand of gauze was packed lightly into the kidney and brought through the external wound. Hemorrhage was insignificant. The wound was closed with a single tier of silkworm-gut sutures. The wound remained aseptic, and at the expiration of four days the strand of gauze was gently removed. A smart oozing of blood followed and within an hour the loin was bulging and the patient exhibiting signs of hemorrhage. He was taken to the operating-room and chloroformed. All the stitches were taken out and the original wound laid completely open and a large quantity of clots and liquid blood removed. A Mikulicz packing was inserted and there was no more bleeding then or thereafter. The packed wound remained aseptic and the convalescence was uninterrupted. The patient is now well and has had none of the old pain since operation.

The kidney wound was not sutured primarily on account of the pus found in the urine. In a similar case this would be disregarded. Direct palpation of all surfaces of the kidney and examination by compression with the fingers is regarded as much more satisfactory than needling.

MEDICAL PROGRESS.

Enteritis with Perforation Due to the Bacillus Coli Communis.—SNELL (*Lancet*, July 30, 1898) gives an account of a case of enteric fever lasting six weeks and terminating in death, which proved a diagnostic puzzle during life and not less so at the post-mortem table, and the nature of which was not cleared up until the bacterial examination of the splenic pulp showed that it contained unmixed colonies of the bacillus coli communis. The patient was a man of good habits, aged forty-five years, who was taken sick April 20, 1898, with a sharp attack of diarrhea. He had not been feeling well for some days previously. There was malaise and slight headache, and the skin had a yellow tinge, though there was no jaundice and no fever. The tongue had a white coat. The urine was normal. May 4th there was a little fever, and this increased during the next three days until it reached 103.6° F., the highest point touched during the whole illness. It fell twice to normal, but usually ranged irregularly from 99° to 101° F. The pulse varied from 65, the normal rate for this patient in health, to 80, changing suddenly from time to time from no apparent cause. The stools were at first slate-colored and partly formed, but later in the illness they become soft and chocolate colored.

The best physicians who saw the patient gave it as their opinion that the disease was not typhoid fever, and the absolutely negative results of the serum-test supported their statement. The prognosis was considered good, as the patient was almost without symptoms, the rapid pulse alone indicating danger. This increased in the fifth week of the illness to 100, and in the sixth week to 120, and in the seventh week, that in which he died, to 140. It was at all times subject to sudden variations

in its rate without apparent reason. Toward the end of the illness there was occasionally a little pain and stiffness in the muscles of the neck and limbs, and pressure in the right iliac region was slightly painful. Three days before his death the patient's mind began to wander, and he rapidly passed into a typhoid condition.

Upon opening the abdomen, twenty hours after death, there was found to be present a purulent peritonitis, starting from three small perforations in the small intestine, twelve to sixteen inches above the ileocecal valve. The floor of other ulcers in the same region was so thin that two more perforations occurred while the intestine was being removed. The whole small intestine, with the exception of the last three feet, appeared normal. In this lower part the whole thickness of the gut was swollen, soft, and pliable, being in places almost necrotic. The lymphoid tissue was especially swollen, and the ulcers, ten of which were present, seem to start therein, but to involve, in most instances, the muscular tissue as well, and to spread laterally rather than longitudinally. The mucous membrane of the large intestine was swollen along its entire length, and was more friable than usual, but there were no ulcerations present. The mesenteric glands of the affected ileum were greatly swollen, but the other mesenteric glands were normal. The spleen was little if any larger than normal. It was rather soft. Cultures and inoculation tests made from the pulp of the spleen all developed colonies of the bacillus coli communis, and of no other bacteria, showing that this germ was present in the spleen in a pure state.

Dislocation of the Testis.—Keith (*Brit. Med. Jour.*, July 2, 1898) had a patient who was run over by a cart, the wheel passing from his left foot upward to the right anterior superior iliac spine. There was no fracture of any bone, but the scrotum was much bruised and swollen, and the right testicle could not be found. The following day, when the swelling had somewhat subsided, a hard mass could be made out just over Poupart's ligament on the right side, pressure upon which produced the testicular sensation. Gentle manipulation on several occasions failed to replace the dislocated organ, and an operation was performed for its return four weeks after the accident. The testicle was found lying in its tunica vaginalis, underneath the deep layer of superficial fascia, partly over the external abdominal ring, and partly in a rent in the external oblique tendon just above Poupart's ligament. The empty scrotum contained the remains of a small hematocele. This was scraped away, and the epididymis was carefully sutured to the lower portion of the scrotum. A small drain was placed in the lower angle of the wound, which was elsewhere closed by buried sutures. The patient made an excellent recovery, and apparently the testicle was in no wise damaged by the retention for four weeks in an abnormal position.

Fatal Fat Embolism from the Breaking of Adhesions.—Payr (*Munchen. Med. Wochenschr.*, July 12, 1898) mentions the death of a girl aged sixteen years who took ether in order to have adhesions in the right knee broken up. This was accomplished without difficulty, very little force being required, but the patient died the next day with symptoms of collapse and pulmonary dyspnea. At the autopsy the finer bronchi were found to contain a bloody, frothy fluid, and when the pulmonary tissue was examined microscopically, it was seen that the blood-vessels, including the finer arterioles and veins as well as the capillaries, were distended with embolic drops of oil. Drops of the same nature were also found in the right popliteal and iliac veins, and in the vena cava.

There have been several instances reported in which fat embolism has followed operations upon bones, but Payr could find only four cases in medical literature, of embolism following the breaking up of adhesions in joints and these were all like his own, the result of the breaking up of adhesions in the knee-joint. As the thymus gland was abnormally large in some of these patients, as well as in some who have died from fat embolism, after fractures, the question comes up for answer, whether there is any connection between the status thymicus, and the occurrence of fat drops in the blood. Payr advances the hypothesis, that inasmuch as the lymphatics are enlarged in the status thymicus, and as they may readily carry fat drops, that there is probably a causal relation between these two conditions. It must in any event be admitted that the breaking up of adhesions in patients whose bones have been rarefied and filled with fat by a long illness, is by no means a trivial undertaking; and that one ought to be especially careful in such operative attempts upon patients having the status thymicus.

THERAPEUTIC NOTES.

Cannabis Indica in Pelvic Diseases.—Labadie-Lagrave and Legueu (*Rev. de Therapeut.*, July 1, 1898) extol the use of cannabis indica in pelvic troubles in which a soothing remedy is required. It may be used with belladonna for this purpose. Given by the rectum these medicines act promptly, and so far from having a constipating affect, they rather favor a stool. In painful disorders of the ovaries, cannabis indica will not only give local relief, but will also stop the headache and feeling of restlessness which so often accompany pelvic troubles in the female. For the irregular and painful menstruation which is so often seen at the age of puberty, the cannabis indica may be administered with belladonna, with the result of reducing an excessive flow of blood and causing the pains to disappear. These drugs are equally valuable at the menopause. Some patients will tolerate only a very small dose of the belladonna.

For Intractable Eczema.—It is recommended in cases in which the application of any medicinal substance whatever seems only to increase the irritation of the skin, to cover the affected area thickly with starch powder. After forty-eight hours the crusts are removed by means of compresses dipped in sterilized water, and the powder is reapplied. Excellent results are said to be obtained by this method in very severe cases which had resisted all previous treatment.

THE MEDICAL NEWS.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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Address the Editor: J. RIDDLE GOFFE, M.D.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK.

Subscription Price, including postage in U. S. and Canada.

PER ANNUM IN ADVANCE	$4.00
SINGLE COPIES	.10
WITH THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, PER ANNUM	7.50

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SATURDAY, SEPTEMBER 3, 1898.

RED TAPE THE STUMBLING-BLOCK OF THE ARMY.

WHEN Montauk Point was selected as the location of the reception camp for the Fifth Army Corps upon its return from Cuba, an air of relief pervaded the entire country. The location of the camp seemed eminently wise; no point on the coast has such bracing air, the yellow-fever bacillus cannot live in it for a minute; the facility for procuring an inexhaustible supply of excellent water almost anywhere on Long Island is notorious, and New York City as a base of supplies is only three and one-half hours distant by train and six by water. Upon this ideal spot was to be constructed a model camp and here our wounded, sick, and exhausted soldiers should receive such tender care as would quickly nurse them back to health, and bring swift forgetfulness of the neglect and horrors they had suffered in Cuba.

It must in all fairness be admitted that the time for getting the camp ready before the arrival of the first detachment was brief. But for some apparently inexplicable reason affairs did not move forward with that despatch which characterizes the rush work, when necessary, of a private enterprise. Each department insisted that its individual work was advancing satisfactorily, but there was no harmony of action, no system, no governing mind. The result was that the work that needed to be done first was no farther advanced than that which might have been delayed to the last, and when the transports landed nothing was finished and everything in confusion.

The unfortunate consequences of all this fell upon the unhoused, poorly fed, famished, and wornout men of the ranks, as well as the sick and wounded, who, instead of having a reception, a home-coming worthy of the service they have rendered their country, were obliged to drag their gaunt and shattered frames to their designated camping ground where insufficient tents awaited them and the long familiar nauseating rations which their enfeebled stomachs were powerless to digest. And what of the sick in the hospital? The house-staff overburdened with work, the inmates suffering from exhaustion and emaciation, many of them bordering on collapse, and the supply of proper food sadly deficient. Such was the condition when the first detail of transports arrived. The second came, and the third, and still the conditions did not improve. Delicacies for the sick of every description and in great abundance, were to be had in New York, requisitions for them were made, but for some reason they were not available for the soldiers and the soldiers did not get them. The Red-Cross Society had no difficulty in procuring the desired and necessary supplies to the fullest extent of its exchequer and in distributing them to the most needy, but such supplies seemed beyond the reach of the regular army channels through which an abundant supply should have been forthcoming. In this state of affairs the Secretary of War appears upon the scene, cuts the Gordian knot of red-tape requisitioning, and the whole aspect is changed—hospital supplies and delicacies appear in abundance, the convalescents in the hospitals who are able to go home are granted furloughs of sixty days—the pressure for accommodations in the hospital is thereby removed, and the immates of regimental hospitals are transferred to the general wards —extensions to the hospitals go up on all sides, and supplies and medicines are coming in, and accommodations and proper food for the nurses are provided. Surgeon Major Brown declares that Secretary Alger did more for the camp in two days than a

hundred men not clothed with absolute authority could have done in a year. The explanation lies in a nutshell. He cut the knot of army departmental red tape.

ARMY ABUSES MUST BE INVESTIGATED.

THE neglect and incompetency which, during the recent war, have characterized the care of our troops in field, in camp, and in hospital have been fraught with direst consequences to the soldiers individually, and have been the source of grief, humiliation, and shame to the whole nation. The strong wave of indignation which is still sweeping over the country finds expression in a universal demand for a thorough and impartial investigation and the fixing of the responsibility for these unpardonable abuses. The Surgeon-General of the army petitions the Secretary of War for a Court of Inquiry, in the full confidence that its findings would relieve him and the Medical Department of the blame which has to a certain extent been charged against him. In answer to all this the Secretary of War issues a patched-up report of a whitewashing Committee of Investigation to the effect that the conditions complained of were unavoidable and no one is responsible. The Secretary goes to Camp Wikoff at Montauk Point, talks in a fatherly way to the individual soldiers, as he meets them, says he is sorry for them, and issues a furlough to every one who is ready to accept it. In a direct and authoritative way he did some good things also and left the camp in much better condition than he found it. But gratitude for a bit of personal kindness now does not excuse the criminal negligence that made that display of personal kindness possible in some instances and impossible in others, for the reason that the natural recipient of it has been needlessly sacrificed. No, Mr. Secretary, a little personal kindness done now to that camp of physical wrecks does not compensate for the great wrong that was done them at Santiago, at Siboney, and on board the transports. Some one is responsible. The hunger, the suffering, the neglect was unnecessary and, therefore, inexcusable. The country demands that the responsibility shall be established and though it may not come through a departmental investigation at your hands, Congress will probe the matter to the bottom. Perhaps it is better so; for in fixing the responsibility for the present abuses, errors of organization may be discovered that require legislative action.

EPIDEMIC CEREBROSPINAL MENINGITIS.

IT will always remain a mystery that the State of Massachusetts, which allows any one to practice any school of medicine unlicensed in any way, produces such excellent official documents as those published by its State Board of Health. Drs. Councilman, Mallory, and Wright of Harvard University have just published the results of their study of an epidemic of cerebrospinal meningitis which occurred last year in the State, and the article is in every way a tribute to the industry of these gentlemen and a matter of pride to the State Board of Health.

The authors found that the disease is most prevalent in the winter and spring, and that children and young adults are particularly susceptible to it. The disease differs from other varieties of meningitis in that the meninges of the cord are more frequently attacked, and that the nerves are more frequently involved in the inflammatory process.

The *diplococcus intracellularis* was a constant finding of the authors, who saw it only in the lesions of the disease. They believe that it enters the brain by way of the nose. Lumbar puncture, in which comparatively large quantities of cerebrospinal fluid were withdrawn, gave evidence of the micro-organism in 68.1 per cent.

In the most acute cases macroscopic examination showed little change in the vessels. Microscopic changes: injection of the blood-vessels with leucocytes in and about their walls; little fibrin present; the leucocytes always polynuclear with an intense nuclear stain. The inflammatory lesions of the brain and cord are purulent, seropurulent, and fibropurulent. The ventricles are never free, and in some of the chronic cases the surfaces of the lateral and fourth ventricles were covered with granulations. The authors found the tissues of the cord always less affected than that of the brain. There is a hyperplasia of the neuroglia cells; the cells are swollen, their nuclei large and contain masses of chromatin of varying size. The nuclei are often surrounded by irregular, branched masses of granular protoplasm. The authors found the second, fifth, seventh, and eighth nerves quite uniformly affected.

In seven of the cases there was a complicating

bronchopneumonia, in two a croupous pneumonia, and in thirteen a mere congestion with some edema. The diplococcus was found in eight cases of pneumonia. The spleen is usually not enlarged, and in uncomplicated cases the lymphatic glands were not involved. The kidneys showed acute lesions in two cases, in one of which, however, the renal disease was independent of the cerebrospinal process. Herpes was present in 31.7 per cent. of the cases, and petechiæ were found in a number of instances.

The map, charts, and magnificent plates, accompanying the report, add to the value of the scientific text. The issuance of such reports is a credit alike to its authors and to the generosity of the State which pays for it.

ECHOES AND NEWS.

Monument to Charcot.—A monument to Charcot will be formally unveiled in the Saltpétrière Hospital at Paris on October 23, 1898.

Dr. Page's Library.—The widow of Dr. R. C. M. Page of New York has presented to the University of Virginia the library of her late husband, consisting of about 650 volumes of valuable miscellaneous works.

The Next Meeting of the British Medical Association.—The next annual meeting of the British Medical Association will be held at Portsmouth, England, which city has never before had the honor of entertaining the Association. The president-elect is Dr. Ward Cozzens of Portsmouth.

Home-Sickness in the Army.—Now that the process has been begun of mustering out regiments whose services will not be required, it is reported that a wave of home-sickness is going through the camps in various parts of the country. This is said to be especially the case in the Seventh Army Corps at Jacksonville, Fla.

Yellow Fever at Franklin, La.—Dr. Carter of the United States Marine Hospital Service reported August 24th that the patient under suspicion at Franklin has developed unmistakable symptoms of yellow fever. This is the second case reported there. The people of the neighborhood continue a cordon of armed guards around the town.

Unhealthy Condition of the Volunteer Camps.—The Relief Commission estimates that there are at present 40,000 invalid soldiers in the army camps of the United States. Major-General Wheeler says that the men arriving at Montauk Point from Florida and the South are in quite as bad condition as those that come from Cuba.

Pean's Casts to Be Preserved.—Madame Pean, widow of the well-known French surgeon, has presented to the museum of the Hôpital Saint-Louis her husband's collection of 614 anatomical and pathological casts. The mold of each cast was destroyed after the cast had been exhibited and reported; hence, the collection is of high value.

American Physicians Honored.—The University of Edinburgh has conferred its honorary LL.D. upon Professor H. P. Bowditch of Harvard University and Professor William Osler of Johns Hopkins University. The University of Michigan, at its last Commencement in June, conferred its honorary degree of LL.D. upon Professor Abram Jacobi of New York.

A Fund for Medical Research.—Mr. Balfour, leader of the British House of Commons, recently delivered an address on the occasion of the distribution of prizes at the Medical School of Guy's Hospital on the subject of "Medical Research." A member of the audience became so interested in the subject that he sent an anonymous gift of $6000 for the establishment of a fund for the continuance of this work.

The Eighth Massachusetts Regiment.—In the MEDICAL NEWS, August 20, 1898, the Eighth Massachusetts Regiment was reported as being stationed near Santiago. This was an error. The regiment has been encamped at Chickamauga, and has never left our shores. Dr. J. G. Mumford of Boston says: "Nevertheless, its good state of health is notable, considering the conditions reported from that camp."

Dr. John Frederick Morse Dead.—One of the best-known surgeons of the Pacific Coast, Dr. John Frederick Morse of San Francisco, died suddenly at his home, August 21st of cerebral hemorrhage. He was a member of the San Francisco Board of Health, and a prominent mason, while as a surgeon of rare skill his fame had spread far and wide. It is said that he was the first to operate successfully for the cure of aneurism of the abdominal aorta, for which he received the congratulations of such distinguished surgeons as Czerny and Verneuil.

The Kentucky School of Medicine.—The late unpleasantness in this institution, according to Dr. Samuel E. Woody, has been carried into the courts, and has gone to the stage of a judicial decision granting an injunction against Dr. Wathen restraining him from claiming either orally or in writing to be Dean of the Faculty of the Kentucky School of Medicine, and from claiming the right to receive any mail addressed to Dr. Woody as Dean, or to the Dean of the Faculty, or to the Kentucky School of Medicine. The injunction also restrains Drs. Cochran and Boyd from claiming either in writing or orally to be professors in the school.

Suicides in the German Army.—Suicides resulting from the brutality to which privates are subjected continue to disgrace the German Army. At Ludwigsburg, a private in the Uhlans named Vögele took his life after an officer had beaten him about the head with a heavy-spurred riding boot. Several other suicides are reported this week. A private at Döbeln put the muzzle of his rifle in his mouth

and pulled the trigger with his foot; the same process was adopted by a private at Langenhennersdorf; a petty officer shot his brains out at Borna; a Hussar of the Grossenhaine Regiment put an end to his sufferings by hanging. Melancholy is the cause generally given in the official reports for these fatal acts.

Golf at the British Medical Association Meeting.—"We hope," says the *Medical Press*, "that the golf contest will henceforth become an annual feature of the British Medical Association Meeting. Golf is undoubtedly the pastime *par excellence* for medical men. All the petty annoyances of practice and the anxieties of a troublesome case vanish under the softening influence of the drives, approach shots, and skilful long puts. The idea, therefore, of bringing together the devotees of the game at the Edinburgh meeting was a happy one. Contests were arranged between residents in Scotland and the rest of the world. Of course, the Scotchmen were skilful, and the serious beating that the "rest of the world" received was not calculated to create a favorable impression of the progress of the game outside the borders of the country which gave it birth."

A New Question of Responsibility in Connection with the Army.—The routine methods of peace are not adapted to emergencies in times of war. This finally dawned upon the War Department, and on August 10th an order was issued from the Adjutant-General's Office permitting certain surgeons to draw upon a special fund for delicacies for the sick regardless of departmental routine. This was sent to the Surgeon-General for transmission to the designated authorities. It read as follows: "Medical officers in charge of general hospitals, hospital trains, hospital transports, and hospital at the camp at Pablo Beach, Fla., and at the hospital at the camp at Montauk Point, N. Y., will be allowed to expend from the appropriation, 'subsistence of the army,' for the diet of the enlisted men undergoing medical treatment under their charge, at the rate of not exceeding sixty cents per man per day for the period each is undergoing treatment. The allowance so made will constitute a special fund in the hands of the medical officer in charge, from which will be purchased the entire diet of the enlisted men while undergoing medical treatment. These purchases will be restricted to articles of food, solid and liquid, the quantities and varieties of which will be determined by the medical officer in charge. Chief commissaries of departments will transfer to medical officers in charge such subsistence funds as may be estimated for by the latter for carrying out the objects of this order." On August 25th, the War Department discovered that the Chief Surgeon at Fort Myer, Va., had not heard of the existence of the order. It is said that the Acting-Secretary of War was very indignant at the Surgeon-General when he learned this, and directed that the substance of the order be telegraphed to every chief-surgeon in charge of a general or field hospital. It was afterward learned that Surgeon-Major Wood at Montauk had a copy of the order which had been promptly received, and it is believed that all the other properly designated surgeons had also.

CORRESPONDENCE.

SOURCES OF MALARIAL FEVER.

To the Editor of the MEDICAL NEWS.

DEAR SIR: I beg to offer a few facts from observations made from 1879 to date on malaria. The theory advanced by Professor Robert Koch in the Berlin letter to the MEDICAL NEWS under date of June 25th he admits is not original, as the rôle of the mosquito had been mentioned by Bignami, Manson and Ross.

In the long years before Laveran's discovery of the malarial parasite all writers believed the poisonous material might enter the system by the digestive tract or through the lungs; by drinking contaminated water or inhaling emanations from damp and marshy places during the night and in the early morning before the heat of the sun had cleared the atmosphere. The people who lived in the marshy districts of Italy and Greece slept in the uppermost portions of their houses or on platforms raised about fifteen or twenty feet above the earth to avoid the vapors rising from the soil during the night.

In England the disease was usually ascribed to impure water, while in the United States both air and water infection were equally recognized.

At the meeting of the American Climatological Association in 1894 Dr. W. H. Daly of Pittsburg, Pa., read a paper on "Malaria a Water-borne Disease," in which he tried to prove that only the surface water is capable of producing the disease, that water from deep wells is safe and the mists arising from marshes or newly broken ground are perfectly safe.

At the meeting of the American Climatological Association in 1895 Dr. Richard C. Newton read a very interesting paper in which he admits the possibility of infection from water in some cases, but claims the majority are produced by aerial transportation. At the same meeting (1895) Dr. Thomas Darlington, Jr., of New York City read a paper on "Malaria in New York City," showing the disease to be present in various forms all over the city, sometimes traced to air infection from digging up streets, sometimes from bad water.

In the "Johns Hopkins Hospital Reports" for 1895, Nos. 1 to 5, Drs. Thayer and Hewetson give an analysis of 616 cases in "A Study of the Malarial Diseases of Baltimore" in which they state, regarding the mode of infection (page 54), that "experimentally it has been shown that while infection through the alimentary tract is improbable, subcutaneous infection is possible, as is also intrapulmonary infection."

In March, 1896, Dr. Patrick Manson delivered the Gulstonian lectures before the Royal College of Physicians of London on the "Life History of the Malarial Germ Outside of the Human Body." In these lectures Dr. Manson described the various forms found in different types of malarial disease, regarding man as an alternative host from whom they must escape in order to complete their life cycle and this condition can only be brought about by their withdrawal from the circulation of man through the agency of suctorial insects more especially mosquitoes, whose presence in malarial localities is well

known. Reasoning by analogy from his studies of the *filariæ* he thinks the plasmodia taken from man by the mosquitoes continue their development until they reach the stage of sporulation, that they then pass from the insect and are diffused in the soil or water, returning thence to man.

In the London *Lancet* for November 14 and 21, 1896, Dr. Amico Bignami of Rome, Italy, reviews at great length the work of Manson, Ross, Laveran, Celli von Fodor, and others who advocate the water or air methods of infection and suggests the bites of insects as the most plausible cause, drawing his conclusions from a study of Professor Allen J. Smith's methods of inoculating Texas fever by the cattle-tick.

At a meeting of the Section on General Medicine May 18, 1897, of the New York Academy of Medicine, I reported a series of cases of tertian intermittent which were seen in this place during February and March, 1897, during exceptionally cold weather and while the ground for many weeks was deeply covered with snow. The first patient, a woman eighty-two years old, was taken suddenly ill with severe gastric irritation, nausea, vomiting, and some paroxysms of fever; at her suggestion that "it might be malaria" I made a careful examination of the blood and found the Laveran plasmodium. A few days later her daughter, forty-nine years old, had a similar attack and the blood examination proved the diagnosis to be malaria. As the deeply driven well was found on examination to be free from taint and the family had not been away from home for several years I was at a loss to account for the disease, until my attention was attracted to a series of shelves one above another occupying all the windows and literally packed with potted plants. All the shelves were *much higher than the seats and beds which were in the rooms*. I had the rooms thoroughly cleared of all plants *and not until after this had been done* could I get results from my treatment.

A mile from these patients during the same month cases developed in two children (under similar conditions) in one family. Removal of *all* plants from the house hastened the recovery. Another case during this period in a man of thirty years could only be accounted for by the quantities of green mold covering the cellar walls under his office. He was a bookkeeper and stood all day upon a loosely fitting trap door which led into the cellar from his desk. A thorough cleansing and ventilating of this cellar undoubtedly was an important factor in his recovery.

After my experiences with these cases, and during the continuance of the cold weather, I went to some florists in localities where there were no marshes and where they were not likely to be infected by the water-supply, inquired their history, and made blood examinations. I found in four different localities people whose blood contained the malarial plasmodium. These florists were not ill but they were hardly ever quite well, complaining of digestive trouble, headache, and indefinite symptoms. They could be straightened up temporarily by a big dose of quinin.

From July, 1879, till July, 1883, inclusive, I lived in the mountains of Colorado and in each year during the spring months I saw many cases of what was called by the miners and hunters of that region, "mountain fever." This condition was undoubtedly from all the surrounding conditions and clinical evidence tertian intermittent, produced by the action of melting snow, decaying vegetable material, and sunlight. Hertz mentions a similar fever developing in the mountainous regions of Russia at the time of the melting of the snows.

During 1889-'90 I resided in Charleston, S. C. As *filaria sanguinis hominis* is endemic in Charleston I made use of sterilized water for drinking, and as I rode out into the surrounding country every clear afternoon, was careful to return early before the mists rose from the marshes. By these precautions I kept well, and frequent blood examinations gave a negative result. Later in the winter increase of work made my rides extend to a later hour in the evening, and through this exposure I contracted a sharp attack of pernicious intermittent fever with a plentiful supply of malarial parasites on each slide of blood examined. The mosquito was absent from Charleston during this time, he was not present in my experiences in Colorado, nor did I see anything of him during the winter of 1896-7 in Sag Harbor.

During the past year I have seeen many cases of tertian fever but have been entirely well. On Friday, July 15th, I spent the day at Montauk Point, returning by train at 9 P.M. I sat in my office writing until midnight, then rode home on my wheel (about one-half mile). Midway to my house the roadway is lined thickly with trees whose branches hang very low. The gardens at this point are slightly below the level of the street, very damp, and packed with flowering plants. As I rode into this section the heavy, marshy character of the air surprised me as it was so very different from anything which I had ever met here, but we have had a very wet, warm summer and I gave it but a moment's thought. On Saturday morning, the 16th, I awoke at 7 o'clock with an intense throbbing headache and intense nausea, which was followed at short intervals between 9 and 11 A.M. by vomiting of bile and watery mucus, and a slight diarrhea. At 11 o'clock I had a sharp chill lasting about twenty minutes, followed by a steady rise of temperature to 103° F. About 3 o'clock the sweating stage appeared and at 5 o'clock I felt comparatively well and had a cup of coffee and toast. During Saturday night, Sunday, and Monday I found malarial forms in my blood, but felt quite well all the week until the morning of July 25th, when I had a slight rise of temperature (101° F.) with headache and intense nausea but no chill, and was able to rise at noon and attend to my work. I took no medicine to break up the attacks, nor did I take anything in the intervals between them.

Mosquitoes are not very plentiful on this portion of Long Island and I have not been annoyed by their attempts to carry away my plasmodia.

I have ventured to intrude upon your time and space to show (1) that proper conditions will produce malarial fever even in mid-winter: *viz.*, heat, moisture, and decaying vegetable material with the mosquito absent; (2)

that exposure to the poison may be very brief and yet produce a prompt result; (3) that the mild attacks seen in this region are self-limited and may often pass away without the use of quinin or medicine in any form—simply by rest in bed and abstinence from food and drink.

Yours very truly,

J. RICHARD TAYLOR, M.D.

SAG HARBOR, N. Y., August 14, 1898.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

THE WAR DEPARTMENT'S INCOMPETENCY — HOSPITAL TRAINS FOR THE SICK SOLDIERS—THE RED-CROSS SOCIETY—PERSONAL NOTES — STATE MEDICAL EXAMINING BOARD—DR. PEPPER'S FUNERAL —HIS SUCCESSOR—A CASE OF STRAMONIUM POISONING — HEALTH-BOARD REPORT AND HEALTH STATISTICS.

PHILADELPHIA, August 29, 1898.

THE indignation felt so generally throughout the country at the gross mismanagement and incompetency of the War Department is particularly acute at Philadelphia and returning volunteers only serve to intensify the general condemnation of Secretary Alger by their stories of privation and distress. The city newspapers have been as aggressive in this respect as they have been valiant in their defense of the medical arm of the service which Secretary Alger and General Shafter seem to delight in besmirching. Of the horrible conditions existing in the various camps no better proof need be furnished than the large number of invalids among the Pennsylvania troops who went to the front well equipped materially and physically.

Dr. S. S. Cohen, having in charge the wards of Jefferson Hospital, where some of the invalids are being cared for, said Sunday that he considered every case of typhoid occurring in a modern city like Philadelphia, or in the camps of an army of a civilizated nation, an evidence of gross neglect by the authorities, and that typhoid fever being a preventable disease, deaths occurring in consequence of it are as surely murders as if the victims had been poisoned by an act of the enemy.

City Councils, so many times abused for its dilatory methods in matters of public welfare, has for once aroused itself to the occasion and already two hospital trains have been sent to the various camps to bring home sick and convalescent members of the Philadelphia regiments. Dr. Wilmer Batt, a member of Councils, secured an order from Secretary Alger permitting the men to return, a committee from Councils having agreed to guarantee all expenses, and the city hospitals furnishing physicians, nurses, sheets, blankets, etc., and the use of their wards.

The first train brought 110 men, and was composed of four hospital cars, a baggage-car fitted as medical headquarters and kitchen, and one parlor-car for the use of the physicians, Drs. Egbert and Pfromm in charge, and the nurses. The second train arrived Saturday with 57 men, Drs. de Schweinitz and B. F. Stahl having it in charge.

The Red-Cross Society will not soon be forgotten by Philadelphia's regiments, for the only comforts they received were those furnished by the Society, the receipts to date being about $10,000.

Major Lawrence S. Smith of Philadelphia, surgeon of the First Army Corps, died at sea, August 15th of typhoid fever while on his way home on the hospital ship "Relief." He graduated in 1891 from the University and served as resident physician at both the University and Pennsylvania Hospitals.

The city seems more deserted than ever, many physicians having left town this month for a few weeks' rest. Dr. H. A. Hare is at Winter Harbor, Maine, for August and September; Drs. Orville Horwitz, Louis Starr, and J. Madison Taylor are at Bar Harbor; and J. C. Wilson is traveling through Canada. W. W. Keen is in Europe. W. M. L. Coplin and E. A. Thornton have returned from "roughing it" in West Virginia.

Dr. Thomas J. Yarrow has been elected to fill the vacancy of pathologist and bacteriologist at the Samaritan Hospital.

Dr. T. H. Andrews is the recipient of a peculiar bequest in the shape of the body of an eccentric tailor who died last month directing in his will that his body be presented to the doctor. Mr. Kelly, the tailor, had various theories as to the prolongation of life by a correct diet, and for several years his food was carefully weighed and the chemical properties noted, but his theory was evidently not perfect, for he was only about fifty-five years of age when he departed this life leaving his body to science and fame.

Dr. G. G. Groff, President of the State Board of Health, returned to the city this week having gone to Porto Rico on Mr. Van Rensselaer's yacht "May," which took some seventy tons of supplies and delicacies to the army in Porto Rico, the gift of the National Relief Committee of Philadelphia.

The results of the June examinations of the State Medical Examining Board show a higher percentage of failures than ever before, 47 out of 254 applicants failing to reach the standard, a trifle more than 18 per cent. That college and State requirements are becoming more exacting each year is very evident and it must certainly, in the future, accrue to the benefit of the profession in this day of Christian-science humbugs, osteopaths, and quacks.

The funeral services of Dr. William Pepper in St. James' Church were simple but impressive. A vast throng of physicians, men of science, and laymen filled the church to overflowing, all anxious to pay honor to the dead. Drs. James Tyson and S. Weir Mitchell were two of the honorary pall-bearers, the others being representatives of the American Philosophical Society, the Free Library, the Philadelphia Museums, the Alumni Society of the University of Pennsylvania, etc. Dr. Pepper made two requests in his will concerning the disposition of his body: first, that it be cremated; second, that his brain be presented to the American Anthropometric Society of which he and the late Dr. Leidy were members. Speculation is rife as to Dr. Pepper's successor in the Chair of Practice of Medicine at the University of Pennsylvania, Dr. Osler of Johns Hopkins University, and Dr. James

Tyson being the apparent candidates, with the chances in favor of Dr. Osler.

Last week a patient at one of the city hospitals died with symptoms of exhaustion from sunstroke, but as he had not been in the hospital twenty-four hours, the coroner's physician, Dr. Cattell, held an inquest which developed the fact that death was due to the excessive use of stramonium for the relief of asthma.

That sanitary inspection of the milk-supply is bearing fruit is evinced by some statistics just published by the Board of Health, the mortality among children under five years of age for the month of July having been reduced from a total of 1485 deaths in 1897 to 1070 in 1898, notwithstanding a large increase in population. Prosecutions against milk-dealers have been followed up vigorously, and several cases of ham-poisoning which occurred last month have made the authorities more alert in the inspection of meat.

The total number of deaths occurring in Philadelphia during the week ending August 27th was 429. The total number of new cases of contagious diseases for the week was 191, as follows: Diphtheria, 56 cases with 8 deaths; scarlet fever, 17 cases with 2 deaths; typhoid fever, 118 cases with 9 deaths.

OUR FOREIGN LETTER.

[From Our Special Correspondent.]

GERMAN MEDICAL EXAMINATIONS—THE ABSENCE OF CERTAIN OBJECTIONABLE ELEMENTS SO STRIKING IN THE AMERICAN SYSTEM—ARTIFICIAL PEPTONE; A NEW FOODSTUFF — THE GERMAN BATTLE AGAINST QUACKERY AND IRREGULAR PRACTITIONERS.

BERLIN, August 22, 1898.

THE medical courses at the various German universities have drawn to a close and the vacations are on. The end of the semester came without any of that intense strain that marks the end of the medical year at an American medical school. To show that students have been in attendance up to the end of the semester their cards must be signed during the last days of July or the first of August, but cannot be signed before so that students may not arbitrarily begin their vacations some weeks ahead. But the suspense, worry, and excitement incident upon a series of examinations crowded together during the last few weeks of each scholastic year is absent. It is one of the most striking things about the close of the semester over here and one that cannot help but be a source of thought to the American medical student abroad.

If anything is clear it is that the present American system by which, especially in final examinations, all the medical branches are arbitrarily crowded into a series of examinations that all would-be graduates must pass within a period of a few weeks, is a source of untold evil and of very little practical good. A heap of undigested information is crammed by students to be retained just long enough to enable them to pass the examinations. The cramming process is, however, under present circumstances accompanied by a nervous strain at high tension that lasts for months. The waste of nervous energy involved must, if the question of an original definite store of vital energy for each individual be assumed to be true, prove an undoubted factor in shortening life. Most classes I think, however, do not have to appeal to this indefinite and not easily computable damage in general, but can often appeal to a death-roll of half a dozen members within a year or two after graduation, the mortality being the result of disease contracted during the stage of lowered resistive vitality consequent not so much upon mental overwork as upon nervous irritation and worry during the weeks preceding examinations.

Under present conditions in America it requires an act of heroic courage and supreme common sense to dare to give up the preparation for examination, because the strain of it is evidently telling upon the health. Very few have the independence of spirit to do it. On the contrary, the feverish excitement of others around him, all engaged at the same task, incites to further efforts at a time when very probably the student is already working to the top of his bent. Any one who has studied the faces of a large class of medical men during the trying times preceding final examinations cannot help but have seen the drawn, worn, tired, overdone look that settles down like a pall over faces that were so cheerful a few months before. Those who have been through the ordeal recently must look back on it as one of the most trying times of their lives.

Yet this sort of thing goes on in the face of the modern medical effort so eminently praiseworthy to make education less injurious to health. Instead of being models of what educational hygiene should be, and this might justly be demanded of them since the arrangement of all details is in the hands of *doctors*, medical examinations are probably the most unhygienic educational institution that the worship of that fetish examination as a deity, whose decision is all important, has brought down to us from medieval times.

This is not, of course, the place to discuss the subject of examinations in general, but one cannot help but express the hope that in the very near future the American medical student shall have, like his European confrère, the privilege of coming up for his examinations when he feels himself ready; that after he has spent the time required for his studies he shall not be compelled to review practically the whole of his medical teaching in a few weeks, and then willy nilly present himself for examination or wait a whole year for another opportunity.

With the spread of medical knowledge, with the acquirement of new technical methods, finally with the unwarranted invasion of the medical course by various specialties, the final examinations are becoming more and more of an ordeal. Something must be done by the faculties of medical colleges if for nothing else but as an example for other university faculties in this matter of the abuse of examinations. Medical examiners themselves, at least the conscientious ones among them, will welcome the relief from this constantly recurring yearly strain upon themselves. For that it is a serious strain upon a man who takes the work earnestly to heart no one can doubt.

For the examiners it practically cuts a month to six weeks out of their intellectual life for the year, and the time of our serious medical workers in America is too precious a heritage in the present state of American medical science to be thus needlessly squandered.

For another class of examiners, of whom perhaps the less said the better, this crowding of it all into a short space seems to mean just so much less bother for them. Such short-sighted views have prevailed too much in American medical schools.

It is time that the more deliberate, more rational, and hygienic methods that prevail in European educational matters as regards examinations should find a place in America, too. The present system is unworthy of the thoroughly advanced position of our educational methods generally, and especially unworthy of the great profession which has known so well how to solve the problems of modern hygiene satisfactorily in other respects.

The rather startling announcement that comes from one of the closing sessions of the Chemical Congress at Vienna that peptone can be manufactured artificially by a simple and synthetic process involving very little expense, has been thoroughly exploited by the daily newspapers. So far absolute confirmation from an authentic scientific source is not at hand, but the daily press account is sufficiently circumstantial to be more or less reliable, and so it is to be concluded that Dr. Leo Lilienfeld, a Viennese chemist, has really attained the much sought for goal, the synthetic production of peptone.

The process which Dr. Lilienfeld is said to have demonstrated before the Chemical Congress was a synthesis of phenol and amido-acetic acid effected by means of the oxychlorid of phosphorus as an intermediate agent. As all of these substances are extremely inexpensive, phenol being practically a derivative of waste material in the tar industry and amido-acetic acid being an ammonia derivative and easily obtained from waste products in a number of chemical industries, the new peptone, as may easily be imagined, will bear no comparison as far as cost of production is concerned, with the ordinary peptone of commerce obtained from meat. Here is of course the merit of the new discovery, the production of an inexpensive food-product.

Such a discovery is not a source of a great deal of surprise at the present moment, for the trend of practical physiological chemistry, in Germany at least, has for the last few years been in the direction of furnishing new foodstuffs at once highly nutritious and inexpensive. All the chemists of the great chemical manufactories have been occupied with the problem, and a large number of such artificially prepared foodstuffs have been put on the market. At the Congress of Hygiene in Madrid Professor Finkler of Bonn demonstrated a new product called tropon, made from plant albumen, that he hoped would prove the solution of the physiological chemical problem, a nutritious inexpensive form of almost pure albumen. The time is ripe for Dr. Lilienfeld's discovery, and the actual synthetic production of albumen would only be a fitting termination to the series of investigations that have been conducted from so many different points of view, and that have been undoubtedly so mutually suggestive to the investigators.

It remains to be seen, however, if the high hopes thus raised will be actually realized in the practical value of the new product as a foodstuff. Our chemical knowledge of albumen of the peptones and the albumoses is at best hazy. Products might easily be obtained that would answer all our present tests for peptone and yet perhaps prove unavailable for purposes of nutrition as foodstuffs. Nearly all the new artificial foodstuffs have been hailed with a blare of trumpets which seemed to indicate that a new discovery has been made but which only served to show that the firm of manufacturers which had it in hand knew the value of advertisement for its introduction.

Even before modern advertising methods came in, however, to make supposedly scientific announcements suspicious, there were hopes raised more than once only to be disappointed in the matter of inexpensive easily preserved, easily carried foodstuffs. A great chemist thought he had found in gelatin a nitrogenous substance that was destined to revolutionize the question of nutrition. Despite its seemingly appropriate chemical constitution it proved to be utterly unavailable because the elements were not in a form in which Nature could split them up for assimilation. The new product could be made tasty and filling by the addition of certain other substances but it itself passed through the system unchanged.

It is a good many years now since the gelatin episode in medical history took place, but it may serve a useful lesson as to too ready acceptance of theoretically perfect synthetic food-products in our day. The test for such an article can only be its practical value as demonstrated by actual use and the study of metabolism during its consumption. No mere chemical tests can ever replace this, and time and investigation, especially in other hands besides its inventor's, must decide the ultimate utility of the new product.

German medical men are thoroughly aroused to the duty they owe the public and the medical profession itself in the matter of the suppression of quackery. Their efforts have now reached the practical stage and airy talk has given place to active measures of suppression of the evils that exist. Each month almost sees some new step gained and, though the hydra-headed evil does not down easily, it is clear that it is but a question of a short time now until this abuse in medical matters will be practically at an end. For countries which are not so fortunate in either the vigorous union of the medical men or the hearty cooperation of their legislators and jurists the present situation in the matter of quackery in Germany is interesting.

Two new features have presented themselves of late. One is very important legally. Recent decisions of the different State courts of Germany show they have at last practically united as to the meaning of the words "secret remedies." The sale of secret remedies has been forbidden for some time, but the courts were not clear as to what constituted a secret remedy. The decisions of the Prussian courts that it is any medical preparation not prescribed by a regular physician, the ingredients and

amounts of which are not openly printed on the package in terms intelligible to the most ordinary people, are now being accepted by the courts of other German States as the interpretation of the law in the matter, and the last of the patent medicines that have been kept on the market because of the pretexts furnished by contradictory State decisions now seemed doomed to disappear.

After the matter of secret remedies comes that other abuse of branch "drug-stores" in which there is practically no responsible head, the business being run in the interests of a distant firm, sometimes by clerks of extremely limited experience and capacity. The evil has not assumed any serious proportions over here, as the apothecaries, who alone have the right of putting up prescriptions and selling remedies that require a *doctor's* prescription for their use, are under thorough regulation. The "drogueries" represent the counter opposite the prescription counter with us, where everything from the Indian panacea to Dr. X's cure-alls and tooth-brushes and bicycle lamps may be obtained. They it is principally who drive a trade in the proprietary preparations that are allowed to be sold, and it is their regulation that will make the law against secret remedies finally effective. The crusade against them has just begun here and it will be interesting to Americans, to whom the same abuses are not unknown, to watch its progress and issue.

SOCIETY PROCEEDINGS.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, Held April 5, 1898.

THE President, B. SACHS, M.D., in the Chair.

DR. ALFRED WIENER read a report of

TWO CASES OF BRAIN TUMOR.

In the patient presented the tumor was revealed by operation; in the other, the specimen was obtained at autopsy.

CASE I.—A male, twenty years of age, was brought to his clinic in June, 1897. He was born of apparently healthy parents, but the father was alcoholic. He was a seven-months' baby, but was born apparently in a normal manner. He was slow in learning to walk and talk. When about seven years old he had otitis media, followed by a profuse otorrhea. The present trouble first announced itself while he was playing cards; suddenly the cards dropped from his hands, and his face "felt stiff." He insisted that he did not lose consciousness, and that he felt as usual by the next day. Previous to this he had suffered from frequent and severe headaches, associated with vomiting. The pain was usually frontal. One month after the attack just described, there was a second and more severe attack. He remained dazed for about two hours; speech was slow, and he could express his thoughts only with difficulty. He slowly became weaker, and vision failed. When first examined there was no perception of light in the right eye; with the left eye he could see fingers at four feet; the pupils reacted to light; the veins were engorged; the disk was swollen and hazy. The tongue was protruded straight. The dynamometer showed marked loss of power on the right side. The patellar reflexes were absent on both sides. There was motor aphasia. Physical examination showed the heart, lungs, kidneys, and spleen to be normal, and the blood examination revealed a leucocytosis. There was increased excitability on the right side to the electric current. The boy appeared fairly well nourished, but was distinctly apathetic. Smell and taste and muscular sense were unimpaired. These symptoms pointed to a tumor. Abscess was excluded for the reason that there was no source of infection. The history was negative regarding tubercular and syphilitic infection. He had been unwilling at first to venture upon the diagnosis of the location of the neoplasm. The possibility of multiple tumors was borne in mind. After four weeks the reflexes in the lower extremities began to return. The headaches became more severe and the disturbance of speech more positively that of motor aphasia. He had therefore come to the conclusion that the tumor was a cortical one, involving the face and arm centers and the posterior extremity of the third frontal convolution—*i.e.*, the speech center. During this time the man had been on antisyphilitic treatment, but with negative results. The slow growth of the neoplasm led him to believe it was a glioma. An operation was advised because he was reasonably sure of the location of the growth, and because a trephine operation seemed justifiable even if the tumor could not be removed.

The patient was operated upon by Dr. A. G. Gerster on July 31st, but the operation through the scalp and skull was attended by such great loss of blood that further interference was postponed. A few days later the operation was resumed by Dr. H. Lilienthal. A piece of the tumor was removed and proved on microscopical examination to be a telangiectatic glioma. Any attempt at manipulating it resulted in severe hemorrhage. Some days after the operation a small abscess was found near the surface, and this was incised and evacuated. After this improvement was more manifest. On October 12th, it was noted that the patient was irritable, and at times, quite excited. He showed some ataxia in his movements; the speech was distinctly hesitating; the patellar reflexes were present, but much diminished. His muscular sense was still present. On November 1st another localized abscess was detected and evacuated. The tumor has been steadily growing out through the wound. On January 18th it was noted that the patient could no longer express the names of familiar objects. On January 28th the mass measured 4¼ inches in length, 2¾ in width at the upper portion, and 3¼ inches at the lower part. On February 8th, when he was just recovering from an attack of influenza, it was found that he could no longer walk alone, and that he was much slower of comprehension than formerly. On February 23d the tumor measured 5 inches in length, 3 inches in width at the upper portion, and 3¼ inches at the lower portion. During the month of March he became more apathetic and could not repeat his own name. At the present time there is paresis of the left facial and right upper and lower extremities; the patellar reflex is present on both sides; there is double abducens palsy,

more marked in the left eye; there is still a tendency to fall toward the right side and backward. The muscular sense on the right side is very much affected. The tumor now measures 5 inches in length, 3¼ inches in width at the upper part, and 3½ inches at the lower part. There have been no severe headaches or epileptic seizures. It is probable that the tumor has been growing just as extensively within the skull as on the outside. The forced laughing, the double abducens palsy and the aphasia all point to extensive involvement of the cortex by the growth.

CASE II.—A boy, aged seven years, seen first October 19, 1897. The child was born of healthy parents, but the father was alcoholic. The patient was the second child and was born after a normal labor at full term. He was perfectly well up to twenty months old, at which time he apparently had an attack of rheumatism, lasting five weeks. From then up to a short time before coming under observation he was well developed, both physically and mentally. It was then noticed that he went down stairs clumsily. About this time he came home one day with a marked swelling over the right frontal and parietal region, and said that a man had struck him with his fist over this part of the head. After this he suffered from severe headaches, and about the same time it was noticed that he was not as bright as formerly. It was next noticed that fluids would run out of his mouth while he was drinking. On October 19th examination revealed a paresis of the two lower branches of the right facial nerve without any electrical change. The tongue when protruded deviated toward the right. There were analgesia and slight dulness to touch on the right side of the face. The patellar reflexes were absent on both sides. There was no bladder or rectal trouble, and there has been no epileptic seizures. Although appearing distinctly apathetic he was fairly intelligent. There was also a double optic neuritis. No evidence of syphilis or tuberculosis could be found. Abscess was excluded for the same reason as in the first case. On account of the complete hemiparesis and hemianesthesia, without loss of the muscular sense, the tumor was thought to be subcortical and located near the internal capsule. The tumor was suspected to be a glioma on account of the location and the symptoms. He was put upon antisyphilitic treatment. On October 23d the patellar reflexes were found to be present but very much diminished, and anesthesia was more prominent, especially in the right upper extremity. On November 11th the optic disks on both sides showed marked atrophy and small hemorrhages could be seen in the retina. He walked with a distinct hemiplegic gait. On November 16th anesthesia was quite marked in the hand and face and the right arm was totally paralyzed. Up to December 2d the condition remained about the same. The patellar reflexes were exaggerated on both sides. On account of the extensive paralysis of the arm and face and slight involvement of the leg he had been inclined to believe that the greater part of the tumor occupied the centrum ovale. The antisyphilitic treatment had been given a fair trial without the slightest improvement. On January 20th, having recovered meanwhile from an attack of scarlet fever, it was found that there was spasticity on the paralyzed side, that he was unable to walk, and was totally blind. On February 7th he died, having been intelligent to the last moment. The autopsy was made by Dr. Wiener four hours later. The abdominal and thoracic organs were normal. The brain weighed fifty-two ounces. The convolutions over the left hemisphere were very much flattened. The left hemisphere was decidedly softened, and horizontal sections through it revealed a soft, infiltrating tumor occupying the entire centrum ovale. In the lower portion of the hemisphere the tumor was mainly frontal. The microscopical examination showed it to be a gliosarcoma.

Dr. Wiener said that the absence of the patellar reflexes had been reported by others, but no satisfactory explanation had been offered for this phenomenon up to the present time. Frontal ataxia, which was really due to involvement of the trunk muscles, which have their location in this particular portion of the brain was another interesting point. It was worthy of note that in both cases the father was alcoholic. In the second case as there was one symptom present before the trauma, he was inclined to believe that the trauma only served to make the pathological condition manifest. The relief afforded by the trephining was evident in the first case.

DR. C. L. DANA said that in the specimen he noticed a portion of the tumor lying back of the Rolandic fissure. This, he thought, might explain the ataxia He had recently seen a large abscess of the frontal lobe in which there had been no history of ataxia. It seemed to him straining the point to try and make it a frontal ataxia. It could not be from the involvement of the trunk muscles.

DR. J. ARTHUR BOOTH said that in the three cases of frontal tumor that he had seen there had been no ataxia and the reflexes had been absent after the symptoms had been well developed.

DR. JOSEPH FRAENKEL said that he was convinced that the condition of the knee-jerks was entirely dependent upon the contraction of the muscles. Another factor, of course, is the muscular sense, and still another is the difficulty of determining clinically slight disturbances of deep sensibility. In the case under discussion he would explain it by invasion of the frontal and parietal lobes, and the probable more or less marked disturbance of the deep sensibility.

DR. W. M. LESZYNSKY said that the more he tested the knee-jerks the more he thought the theory of inhibition could be, to a great extent, sustained. This had been particularly noticeable in cases of meningitis in children that he had observed in the early stages. These children had been previously tested for their knee-jerks as a matter of routine. When the signs of pressure had set in later the knee-jerks had become exaggerated, and this he attributed to the irritation within the brain. A similar explanation could be offered in connection with the case now under discussion.

DR. B. SACHS thought the question of ataxia in these cases could not be settled by the supposition that it was wholly due to the invasion of the tracts lying in the

vicinity of the parietal lobule, for the reason that ataxia had been noted in other cases of frontal tumor in which there had been no involvement of that particular region. It seemed to him, therefore, that the ataxia had come to be looked upon as a symptom of frontal tumor. The behavior of the reflexes in the cases reported seemed to him very remarkable. In his own mind the older theories were of greater help than the theory suggested by Van Gehuchten, or that propounded by Dr. Fraenkel. He believed Dr. Fraenkel was confounding things which are coincident, without necessarily being related, as cause and effect. It would not do simply to assume that there were changes in the deep sensibility which we were as yet unable to detect clinically. He was inclined to believe that the same causes which produce loss of reflex are also responsible for the changes in the tonus and in the deep sensibility. There was probably some additional fact in the explanation of the reflexes which was yet lacking, but we should not endeavor to make the facts fit the theory. Another interesting point in this case was the certainty with which it was diagnosticated as a subcortical tumor. The hope of an excision had been abandoned at a very early day. The diagnosis of its situation had been largely based upon the non-occurrence of epileptiform seizures from the beginning to the end of the disease.

DR. WIENER, in closing, said in reply to Dr. Dana, that he did not doubt that there might be tumors of the frontal lobe without any ataxia, but it had been shown that when the portions bordering on the frontal convolutions were destroyed there is this peculiar cerebellar gait. If Dr. Fraenkel's theory regarding the reflexes was correct he could not understand why, in the cases just reported, the reflexes should have returned afterward. He thought the increased reflexes were due to the destruction of the normal inhibitory influence.

A CASE OF SUBCORTICAL VISUAL APHASIA.

DR. JOSEPH COLLINS reported such a case, and presented the brain. The patient, a male, fifty-eight years of age, had not had syphilis, rheumatism, or gout, nevertheless the vessels showed well-marked arterial sclerosis. For five months he had been complaining of headache and vertigo. Then, without warning, he became unconscious and lay in a stuporous condition for about three weeks. After this he recovered his mental balance, but was unable to return to work because, it was said, of his "weakness." Examination of the eyes showed complete right lateral homonymous hemianopsia. There was complete word blindness, and almost complete letter blindness. He could not mark a word off into syllables. There was no object blindness. He recognized things and called them by their right names. He wrote very badly to dictation, and it showed that he could not retain the words in mind long enough. When asked to read what he had written, he pointed to each word, and said: "I would like very much to read," and continued to repeat this again and again. He did not give the slightest heed to words put in writing, although he responded promptly to spoken commands. Spontaneous speech was not materially disordered. The symptoms pointed to a lesion between the angular gyrus and the visual centers, situated in the posterior end of the left hemisphere. If the lesions were in the primary visual center, there would be object blindness.

The patient had been admitted to the City Hospital, and extended observation showed no material change in the above findings. He was easily excited. On November 8, 1897, he suddenly fell over in a general convulsion. He did not recognize any one after that, and soon developed a right-sided hemiplegia. The autopsy was made a few hours after death. There was no noticeable abnormality aside from the brain, except an extensive arterial sclerosis. The entire occipital lobe was reddish-yellow, and with the exception of the extreme posterior cortex, the brain was replaced by a cystic formation. Nearly all of the lingual gyrus and the cuneus had been destroyed—in short, the cystic formation involved the whole posterior part of the left hemisphere save the very apex of the cuneus, and particularly the inner surface. The remainder of the left hemisphere was apparently normal. The temporal lobes were not implicated. The depth of the lesion was almost through the entire thickness of the white matter, and into the ventricles. Both lateral ventricles were distended with clots.

REVIEWS.

OPERATIVE GYNECOLOGY. By HOWARD A. KELLY, A.B., M.D., Professor of Gynecology and Obstetrics in the Johns Hopkins University; Fellow of the American Gynecological Society, etc. With Twenty-four Plates and over Five Hundred and Fifty Original Illustrations. In Two Volumes. New York: D. Appleton & Co., 1898.

THIS work of Dr. Kelly, not only marks a distinct innovation in the conventional form of medical book-making, but also sets a high standard for all future text-books in this specialty. The distinctive feature of the book and one that impresses the reader upon first glance and grows more and more satisfying as familiarity with the work advances, is the great excellence and abundance of the illustrations; indeed, the first half of the first volume abounds in illustrations to such a degree that the text drops into a minor position. The illustrations are almost exclusively made from original drawings and, to the operating surgeon and the practical anatomist, bear evidence upon their face of being perfect reproductions from the living or dead subject; and, not only this, they are distinctively works of art.

The author's aim in writing the book, as announced in the preface, has been to place in the hands of the many friends, who, from time to time, visit him and follow his work, a convenient summary of the various gynecological operations he has found best in his own practice. The work is not, as had been generally expected, a digest of the literature of the subject but a record of the author's own personal work, and a description of operations as performed by himself. It must not be inferred, however, that he has confined himself, in this regard, to those particu-

lar features of the specialty in which he has done original work or prosecuted special research. In the two volumes the entire realm of gynecological procedures is pretty thoroughly embraced.

This is distinctively a work upon operative gynecology, and it is interesting to note that in the chapters the subject has been classified in accordance with the operative procedure described. In contrast to this are many recent gynecological books in which the subjects are classified in accordance with symptoms. It has been so long the custom in works on general medicine, to base the classification of the subjects upon the pathology of disease, that this recent marked departure from the custom of standard works implies a degree of uncertainty in pathology. This is not to be wondered at when we realize that at the present time we are passing through a transition stage, not only in pathology but also in therapeutics. Symptoms, we are sure of, and of surgical procedure there can be no doubt.

Dr. Kelly's original investigation into the subject of treating by operative procedure retrodisplacements of the uterus, his advocacy of suspension of the uterus by intraperitoneal bands, as well as his original method of investigating and treating diseases of the bladder, ureters, and kidney, have all been thoroughly presented in current medical literature, but they naturally form a very important part of the work under consideration. In lacerations of the perineum and relaxation of the vaginal outlet, Dr. Kelly follows literally the improved Emmet operation and illustrates it by elaborate and clear illustrations. It is, at best, a complicated procedure, and simpler methods are known to produce equally good, if not better, results.

It is somewhat of a surprise to find in so pretentious a work as this, and one destined to be more or less of a standard authority, indorsement and even advocacy of the teaching that the normal vermiform appendix can be palpated with certainty through the abdominal walls. The limited number of cases in which this is possible would certainly prohibit its introduction. The statement on page 481, that it is unjustifiable to attempt to dilate a cervical canal sufficiently to permit the introduction of the index-finger into the uterine cavity, will not meet with universal acceptance, nor discontinue that practice among men whose custom it is to resort to this procedure for the purpose of exploring the interior of the uterus with the finger.

As might be expected, the principal effort in the book has been expended in describing and illustrating surgical procedures. The author shows most careful study in investigating the cause of complications attending the recovery from surgical operations, but comparatively little attention is given to the etiology of original pathological conditions. The author is an ardent advocate of conservative surgery, especially of myomectomy in preference to hysterectomy for uterine tumors, and of the various conservative procedures recommended for preserving the healthy portions of the ovaries and Fallopian tubes for the purpose of continuing to the woman her menstrual experiences and securing for her, as far as possible, the possibilities of conception.

The few criticisms offered here are of minor importance. The book itself is a monument to the indomitable energy, devoted scientific spirit, and unsurpassed surgical skill of its author, and, in doing credit to him, honors likewise American gynecology and American surgery.

THERAPEUTIC HINTS.

For Chronic Laryngitis in Children.—

℞	Ac. hydrochlorici dil.	ʒ i
	Aluminis	ʒ iss
	Mellis	℥ i
	Aquæ	ʒ v.

M. Sig. Use as a gargle every four hours.

For Erysipelas.—Apply the following ointment, covering with a roller bandage, or with a mask if the disease affect the face:

℞	Ichthyol	ʒ iiss–v
	Petrolati	gr. lxxx
	Lanolini	ʒ iv.

M. Ft. ungt. Sig. External use.

For Chronic Bronchitis.—

℞	Apomorphinæ hydrochlorat.	gr. ss
	Syr. pruni virginianæ	℥ ii
	Syr. picis liquidæ	ʒ iv.

M. Sig. One tablespoonful three times a day.

To Relieve the Pain of Ocular Neuralgia.—For this purpose MARKOFF considers morphin and cocain inadequate and recommends cyanid of potassium or hydrochlorate of quinin. The former is used in a warm ⅓–½-per-cent. solution, of which 5–10 drops are instilled into the widely opened eye. If kept dark and cool the solution can be used so long as it retains its characteristic odor. Hydrochlorate of quinin is used in 1-per-cent. solution (dissolved without acid). It is best combined with morphin as follows:

℞	Quininæ hydrochlorat.	gr. iss
	Morphinæ hydrochlorat.	gr. ¼
	Aq. dest.	ʒ iiss.

M. Sig. Five to 10 drops for instillation. The pain is said to be entirely relieved after one or two instillations, fifteen minutes apart.

For Diarrhea of Tuberculosis.—

℞	Pulv. catechu	gr. xl
	Syr. krameriæ	ʒ i
	Tinct. cinnamomi	gtt. x
	Vini rubri	℥ iii.

M. Sig. To be taken within twenty-four hours in tablespoonful doses.—*Bricemoret.*

For Epithelioma of the Skin.—

The following plaster is recommended:

℞	Resorcin	ʒ i
	Ceræ flavæ, Resinæ aa	gr. lxxx
	Ol. olivæ	q. s.

M. Ft. emplastrum. Sig. External use.

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXXIII. NEW YORK, SATURDAY, SEPTEMBER 10, 1898. NO. 11.

ORIGINAL ARTICLES.

THE POST-OPERATIVE USE OF INTRAVENOUS SALINE INJECTIONS.[1]

BY EUGENE BOISE, M.D.,
OF GRAND RAPIDS, MICH.

THE five post-operative conditions which seriously endanger the life of the patient are: (1) hemorrhage, (2) shock, (3) sepsis, (4) uremia, (5) intestinal obstruction. In all of these conditions the intravenous use of saline solutions is indicated as a primary and extremely valuable factor in our life-saving efforts. This bare statement may be all that is necessary to cause mental assent on the part of this audience, though perhaps a brief review of the facts on which the assertion is grounded may be of value as aiding to bring forth corroborative facts from the large experience here represented.

I believe the intravenous route should have preference over all others because, first, by the use of a proper technic there is practically no more danger than by any other route; second, it supplies fluid to the system most quickly and most certainly; third, it brings heat directly to the cardiac and arterial ganglia; and fourth, by this method the stimulating effect of the saline solution on the heart-muscle is more immediate and more pronounced. In exceptional cases subcutaneous injections may preferably be used. It may also be well in certain cases to supplement intravenous injections with high rectal injections. But, accepting the assertion that the intravenous method is practically no more dangerous than the others, its use should be the rule, the judgment of the operator telling him when it should be aided or supplanted by one or both of the other methods. Again, I believe the solution should always be used as hot as can be safely borne—or at a temperature of 115° or 118° F. Whether the post-operative condition of the various organs is one of depression or excitation, heat as thus supplied will be beneficial. In acute anemia, whether caused by hemorrhage or the exhaustion consequent on the disease itself, raising the temperature of the fluid circulating throughout the system will aid in re-establishing physiologic activity.

In shock, in uremia, in dynamic ileus (especially if supplemented by high rectal injections), the addition of hot saline solution to the blood is beneficial. In hemorrhage, so severe as to prove fatal, though about one-half of the normal quantity of blood always remains in the body, death is caused by acute anemia of the nerve-centers. If the blood-vessels can be quickly refilled by a fluid which is not injurious to the normal blood, life will be preserved and all the organs will continue their physiologic activity. Of these solutions the normal saline solution has proven the most acceptable. It not only distends the capillaries and arterioles, but it dilutes the blood remaining in the vessels and renders it available for purposes of nutrition. It seems to exert a directly stimulating effect on the exhausted nerve-centers, and this effect is more rapidly produced and heightened if the solution is hot. André Claisse[1] thinks that the intravenous use of saline solution also exerts a direct hemostatic influence, aiding in the formation of a clot at the point of hemorrhage.

Many patients present themselves for operation in a condition somewhat resembling that brought about by an acute hemorrhage. In other words, emaciated, pale, with low arterial tension, and small, rapid compressible pulse, the normal volume of blood greatly lessened and the reserve of fluid stored in the system greatly depleted. Such patients are poorly prepared to sustain the further exhaustion incident to the preliminary washing-out of the bowels by free saline catharsis—as often practised—and while they will probably recover from an operation, even somewhat prolonged, the recovery will be comparatively slow and the immediate post-operative conditions of thirst and restlessness greatly aggravated. To such patients the free administration of water during the few days immediately preceding operation, and the use of a large intravenous injection of hot saline solution after the patient is anesthetized, will be of great benefit, not only in lessening the anxiety of the anesthetizer, but in allaying the discomforts necessarily consequent to the operation and in aiding the speedy re-establishment of normal physiologic functions.

In post-operative shock, a condition in no sense connected with or dependent on hemorrhage, this use of *hot* saline solution has proved one of the most valuable therapeutic measures we possess. In this condition the heart and arteries are nearly empty and the capillaries and veins proportionally dis-

[1] Read at the Twenty-third Annual Meeting of the American Gynecological Society, held at Boston, May 24, 25, and 26, 1898.

[1] *Gaz. Med. de Paris*, September 26, 1896.

tended. But this is not (as many contend) a condition of paralysis of the heart and arteries whereby the blood, by some unexplained process of natural selection, collects in the capillaries and veins instead of equally in the paralyzed arteries, but is rather one of spasm of the heart and arteries whereby the blood is forced into the capillaries and retained in the veins. In such cases the experience of operators everywhere has proved that the injection directly into a vein of a hot saline solution (118° or 120° F.) is extremely valuable. The beneficial result is not merely due to the additional fluid suddenly thrown into the system, but is largely due to the fact that the solution is hot. The heat (modified somewhat by the lower temperature of the blood) proves directly sedative to the irritated cardiac and vascular ganglia, promoting relaxation of the muscular spasm of both heart and arteries and a rapid readjustment of the circulatory conditions. To obtain the best and most rapid results it is necessary that the injection should be into a vein rather than an artery, that the hot solution may be carried to the heart and arteries as rapidly and with as little dilution as possible.

In sepsis, also, recent investigations and experiments have demonstrated the great value of intravenous injections. There are three factors which must be considered in estimating the probabilities of a fatal result in a case of sepsis: (1) the quantity of germs; (2) their virulence; and (3) the power of resistance residing in the individual. Whether the intravenous use of saline solutions meets all of these indications or not has not yet been fully determined, though numerous investigations have been made attempting to settle these questions with some degree of definiteness, and experiments on animals are continually being made along the same line. But in cases of grave sepsis that such use of saline solution is of value, testimony from an increasing number of operators in various countries, is accumulating.

Dr. Berlin of Nice[1] reports a case of septicemia following vaginal hysterectomy, in which there was great distention of the abdomen, subnormal temperature, dyspnea, and all the grave symptoms of approaching death. When death seemed imminent, he injected saline solution twice (after a short interval). At first the symptoms seemed aggravated, but improvement soon began, resulting in recovery after twelve days.

Dr. André Claisse[2] says that in infections and grave intoxications the injections are indicated. When the temperature is high, and especially when the general symptoms reveal a grave pathologic condition, this treatment should be employed in combination, of course, with the proper local treatment. He says, "As to contraindications, there are none in acute anemia or operative or traumatic shock. It is the only method of treating efficaciously a dying person. In infections the condition of the kidneys, the heart and the lungs must always be watched. . . . If the kidneys are profoundly altered and the heart weak, we must act slowly and cautiously. . . . In this treatment we have an agent which, logical in theory and based on experimentation and clinical facts, may give the most favorable results in cases which seem beyond the reach of medicines."

Lejars[1] says these injections are of the utmost value, and the great trouble is that they are not used in sufficiently large amounts. Vedel[2] in attempting to establish the value of and the indications for the use of these injections, experimented with dogs, which were first poisoned with the bacillus coli, which causes rapid death, with hemorrhages and gastro-intestinal troubles, anuria, etc. He found that recovery followed the use of these injections which first caused more or less reactionary disturbance. Also, in an alcoholic subject, with adynamic pneumonia, in whom the temperature had been elevated ten days, an intravenous injection caused, primarily, reactionary symptoms, but after several hours the temperature fell to normal and the patient recovered. The same result followed, but more gradually, in two cases of staphylococcic infection. Vedel therefore concludes: "In the infectious diseases saline intravenous injections may always be administered, but they must be practised as soon as possible after the beginning of the infection; and the important indications must be looked for in the condition of the pulse, of the blood-pressure, of diuresis, and of the general condition. Anuria and albuminuria are not contraindications."

Tommasoli of Palermo[3] reports a case of burns, so severe as to be generally considered fatal, in which saline solution was used subcutaneously several times, resulting finally in recovery in an otherwise hopeless case. In an attempt to demonstrate the actual value of these injections, as also to throw some light on their mode of action, he experimented on dogs, severely scalding them. Out of ten animals treated with saline injections, only two died, while all the control animals died within two days. Also, he found that the blood of dogs severely scalded, but not treated with serum, being injected into healthy animals caused their death unless serum

[1] *Ther. Wochenschrift*, January 11, 1896.
[2] *Gaz. Med. de Paris*, September 26, 1896.

[1] *Medicine Moderne*, May 13, 1896.
[2] *Independence Medicale*, September 9, 1896.
[3] *Monatshefte für praktische Dermatologie*, June 15, 1896.

injections were given. These experiments would tend to show that an actual antitoxic influence is exerted by the saline solution, but the exact way in which this influence is exerted is not yet sufficiently demonstrated.

Roger[1] in experiments on rabbits, has shown that in animals poisoned by various toxins the intravenous injection of saline solution caused the elimination of the toxins at least one hour sooner than occurred in the control animals.

Many other experiments have been made along the same lines; but while they all show that these saline injections are of very great benefit in all cases of sepsis, the exact mode of their action has not been definitely determined. It is, of course, evident that they greatly dilute the blood and thus lessen the quantity of germs acting on the nerve-centers at any one time or place, but it would seem that they must exert influence in other directions; that they actually antagonize the toxins and increase the individual resistance. In addition to this, they certainly aid very powerfully in eliminating the poison, both through the kidneys and perspiratory glands.

In those cases of partial or complete suppression of urine following operation, which so frequently result fatally in spite of our best efforts, the intravenous administration of saline solution will be of great assistance, whether the suppression is consequent on previously existing disease of the kidneys, or on conditions incident to the operation itself. Indeed, I think I am justified in saying that it is the best therapeutic agent at our command. It will, moreover, broaden our field of work in that it will enable us to operate in cases which we have heretofore avoided because of degenerative changes in the kidneys. Hare and others, by intravenous injections of saline solution, have entirely dissipated those uremic symptoms which shortly precede death in cases of chronic organic disease of the kidneys. Dumarest[2] has found intramuscular injections in cases of uremia from chronic kidney disease very efficacious. Coma began to pass away within an hour, and the toxic symptoms rapidly disappeared. He concludes that, (1) these injections are not contraindicated by renal alterations. On the contrary, they exert the best influence on the toxic symptoms due to these alterations, and even on simple albuminuria; (2) pulmonary edema and anasarca do not constitute an obstacle to this method; (3) salt water probably acts by a double mechanism, tonic and antitoxic in the beginning, which is palliative; and secondarily, eliminating, which is curative; (4) these injections are pre-eminently the proper means of treatment in desperate cases. In the last stages of uremia and eclampsia they are a most powerful agent in the struggle with death.

If intramuscular injections have proved so valuable, we can much more certainly rely on the same benefit following intravenous injections, inasmuch as the same fluid would be supplied to the system, only much more certainly and rapidly. The toxic elements circulating in the blood would be more rapidly and surely attenuated, and if there be any direct antitoxic influence it would be more rapidly exercised. Moreover, although Dumarest says that pulmonary edema and anasarca are not contraindications, we can more readily expect good results from the intravenous method, inasmuch as the vascular pressure in the kidneys is surely raised, and if they can be stimulated to renewed activity this method is the most promising. Again, in cases of ileus, so severe as to endanger life, intravenous injections will afford valuable aid. Cases are seen occasionally so severe or so advanced as to threaten certain death if not relieved by surgical means, and yet the condition of the patient is such that operation seems absolutely contraindicated.

Moltschini, at the Moscow Congress, said that in ileus fecal vomiting is generally a contraindication for operation (or in other words, when fecal vomiting occurs it is generally too late for operative interference). He also says: "The condition of the patient's strength is that on which the outcome of the operation depends, therefore weakness, collapse and intestinal paralysis are contraindications." In intestinal obstruction we estimate the condition of a patient's strength with reference to operation by the character of the pulse. In this condition there are two elements which combine to render the character of the pulse progressively bad, the first, of small importance, the removal of fluid from the system by the frequent vomiting; and the second, of much greater importance, the poisoning of the nerve centers by products absorbed from the intestines. Intravenous injection meets both these conditions, the first, by the mechanical addition of water to the blood; the second, in the way we have seen in discussing its action in other forms of poisoning, and both, by attenuating the poison and powerfully aiding in its elimination. In addition to this, it so increases the patient's power of endurance or resistance as to render operation possible in otherwise hopeless cases.

Injections may therefore be used both before and after operation with great benefit. Before, in all cases where the vitality of the patient is low, as in acute or chronic anemia, traumatic shock, especially if complicated by hemorrhage, the state of shock or

[1] *Bulletin Medicale*, December 2, 1896.
[2] *Province Medicale*, September 19, 1896.

collapse due to severe and overwhelming poisoning of the nerve-centers, as from rupture of an abscess into the peritoneal cavity, and in cases of albuminuria due to organic disease of the kidneys. They may be used with great benefit after operation in all those conditions which directly endanger life,—hemorrhage, shock, uremia, and blood-poisoning of all kinds.

As to the technic, I shall say but little. The apparatus should be as simple as possible, and yet so arranged that the temperature of the fluid can be ascertained and regulated as it passes into the vein. An apparatus, for instance, composed of two reservoirs, one for very hot and the other for cold water, emptying into a common reservoir, like an ordinary irrigating apparatus, the outflow from each to be regulated according to the heat at the lower extremity of the tube, as demonstrated by a sensitive thermometer so attached to the tube that the bulb is bathed in the solution. The part introduced into the vein should be of glass, narrow at the point like an ordinary medicine-dropper. A free incision should be made in order that there may be plenty of room. The vein should be well exposed and incised longitudinally. All air should be expelled from the tube by allowing the fluid to run through it, and the glass tube should be inserted into the vein while the fluid is escaping, care being taken that it penetrates the vein and not merely its sheath.

SURGERY OF THE PNEUMATIC SINUSES OF THE SKULL IN RELATION TO OPHTHALMIC AND AURAL SURGERY.[1]

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To review the literature or to offer case-reports is not the purpose of this communication, but rather to give a brief synopsis of the results of personal experience with the practical surgery of the pneumatic spaces of the skull, such as fall within the scope of ophthalmic and aural surgery. Years ago I profited by the personal demonstration and teachings of Professor Zuckerkindl of Vienna. Several years after this (1882) he published in book form the results of painstaking labor under the title, "The Normal and Pathological Anatomy of the Nasal Cavity and Its Pneumatic Accessories." This anatomical treatise, with its accurate drawings and descriptions, stimulated me, as it has many others, to renewed interest in a subject concerning which there has always been much speculation, but little or no certain knowledge, and for this reason no practical surgery.

The pneumatic spaces of the temporal bone, because of their more frequent invasion by acute and chronic pathologic processes, unmistakable symptomatology and imperative necessity for surgical interference, have long before the other sinuses claimed and received the fullest recognition on the part of the general and aural surgeon. This has been owing mainly to the more ready access of this locality, the excessive suffering attending the acute cases, and the grave complications involving the meninges, as well as other dangers to life in connection with the chronic ones, for which there was relief and cure only through the medium of surgery. As a result of the painstaking labors of many in the practical field of surgery and more accurate clinical and pathological knowledge, all led and stimulated by the suggestions of Professor Schwarz of Halle, we have at the present time, for this region, a most practical and eminently successful surgery both so far as method and technic are concerned. With special emphasis, the same statement applies to the diseases and surgery of the maxillary sinuses. The brilliant achievements of dental surgery are so well known that further reference is unnecessary.

The lesions of the pneumatic spaces of the frontal, ethmoidal and sphenoidal bones are disclosed by the almost uniform presence of characteristic symptoms on the part of the walls of the orbit, its margins or contents, and even if these uncommon cases have not attracted more general attention they, nevertheless, belong to the province of ophthalmic surgery. Unfortunately these cases have not received, even from the majority of ophthalmic surgeons, the attention they deserve and only those unmistakable examples of disease in which these sinuses become the retention-cavities for pus, larvæ, micro-organisms, or tumors were the indications for rational surgery looked upon as imperative, and even in such cases, unnecessary delay was oftentimes resorted to.

Surgical interference of some kind almost forced itself upon the surgeon, unless, as not infrequently happened, he looked on until, after months of tedious suffering, fistulous openings with spontaneous evacuation of the retained contents of the choked sinuses resulted. In other instances, more successfully managed, surgery ceased with the evacuation of the contents of the distended cavities, and relief from suffering once accomplished no further interference was thought necessary. Only in exceptional cases was a more complete method adopted. This had for its object a more thorough exploration of the affected locality, and if deemed necessary, also of the adjacent sinuses, for the better diagnosis of the real nature of the disease as well as for more satisfactory irrigation, or for local treatment subsequently. My own mistakes in diagnosis and the inadequate surgical measures which I formerly adopted have fully

[1] Read before the Ohio State Medical Society.

taught me the truth of this statement. My experience leads me to say that many of the cases which are recognized as periorbitis, cyst of the orbit, caries of the margin, obstinate frontal and supraorbital neuralgias, etc., are in reality only the conspicuous manifestations of obscure chronic lesions of the frontal, ethmoidal, and maxillary sinuses.

I have seen several instances of caries of the inferior margin of the orbit in which chronic disease of the maxillary sinuses was responsible for the orbital lesions and which disappeared after an opening had been made from the mouth along the canine fossa. I remember one case in a child, of periorbitis of the lower margin of the orbit followed by caries, in which by accident, later, a fistulous opening in the mouth was discovered. This was enlarged at once along the canine fossa, pus evacuated, and the sinus drained, this procedure being followed by rapid subsidence without further treatment for the orbital lesion. I recall to mind a number of cases of periorbitis in which I was satisfied to evacuate the pus only and resort to packing and irrigation, and all were unsatisfactory. These were not cases of localized periorbitis or periostitis at all, but were really cases of frontal and maxillary sinus disease, followed either by spontaneous perforation of the bony wall, with detachment and bulging of the periorbital covering, appearing under the clinical picture of a localized periorbitis, the real nature of the disease being marked because of the latency of more positive manifestations of sinus disease of this region. In the cases similar to these an exploration of the frontal or maxillary sinuses would disclose the origin and cause for the periorbitis and caries of the margin.

Periostitis of the margin of the orbit in which traumatism can be excluded is one of the rarest lesions and in the majority of such cases the lesion is situated in one of the accessory air-cavities referred to. The so-called cysts of the orbit, in particular those met with in old persons, in which a syphilitic history and catarrhal rhinitis with polypi of the middle or superior regions of the nose are found, are not cases in which the cyst develops in the orbit but are uncommon expressions of disease of the ethmoidal cells or sinuses. The deformity in these cases resulting in displacement of the eye is marked and the periorbitis is often so tense that the presence of a solid tumor may be inferred. Another feature of these cases is that pressure against the protrusion which causes the proptosis is often followed by vertigo. The region of the anterior ethmoidal cells and the sinuses of the superior walls in the proximity of the lamina cribrosa explains this.

This was especially instanced to me in a case of extensive epithelial cancer of the orbit and pneumatic sinuses of the skull in which it became necessary to explore and open, not only the frontal and maxillary sinuses, but the ethmoidal cells and sphenoidal sinuses. In this case pulsation of the floor of the brain cavity was distinctly visible. In another case of extensive sinus disease with the growth of an exostosis within the sinus, pressure against the bony protrusion caused syncope at once. The operation in this case disclosed a large exostosis of the right frontal sinus and extensive implication of the ethmoidal cells.

Another instance of erroneous diagnosis to which I have referred is inveterate neuralgia of the frontal and infra-orbital regions. These cases are identical with those met with in the ear and referred to as neuralgia of the mastoid. Uncontrollable neuralgia of this region, when all other causes are eliminated, may be due to disease of the pneumatic cavity of the frontal or maxillary sinuses, and relief can be afforded by thorough surgery alone, *i. e.*, the opening of the sinuses, and not as is often advised and practised, by division and resection of the supra- or infra-orbital nerves.

It is the surgical method applicable to these obscure pathologic invasions of the pneumatic cavities marked by interminable chronicity and uncertain symptomatology and etiology, attended by sequences or complications which comprise a number of distinct pathological processes to which it is my main purpose to refer. Our knowledge concerning the purpose and function of the pneumatic cavities has made little or no advance. We have, however, acquired valuable practical experience concerning pathologic conditions, immediate and remote, resulting from various causes, or more accurate symptomatology, and certainly more satisfactory indications for surgical treatment. These remote sequences of chronic sinus disease comprise: fistulous openings, tortuous trails appearing in remote localities from the seat of the lesion, as for instance, on the side of the neck; as a result of a lesion in the pneumatic cells of the temporal bones, at the inner, upper, lower, and inferior margin, and even at the extreme outer margin of the orbit, as the result of disease of the frontal sinus; lateral displacement of the globe, or proptosis with formation of a firm tumor; as the result of a disease of the ethmoidal sinuses due to the retention and perforation under the periorbita of the glue-like contents of these cavities. With lesser frequency we meet with chronic empyema, hyperostosis, exostosis, periostosis, and the growth of osteophytes or exostoses; rarefaction of these cavities with dilatation, in exceptional cases, to enormous proportions; contraction of these spaces, either con-

fined to one or several, or as observed in these rare cases of leontiasis ossea affecting all alike.

The real advance and greater perfection of the surgery of the accessory cavities of the skull dates from the time that the old-fashioned drills and trepanning-instruments were exchanged for the chisel and mallet. As already stated, it is to Professor Schwarz and his followers that we are mainly indebted for the rapid and brilliant progress in that department of aural surgery which concerns the pneumatic spaces and mastoid antrum of the temporal bone and also the graver complications of middle ear disease. The more infrequent complications—sinus, thrombosis, subdural cholesteatoma, etc., etc.,—formerly unrecognized, or at least not relieved by surgical means with the same ease and thoroughness as at present, are all embraced in the scope of one of the simplest and most successful surgical methods, and its technic rendered easy and safe by the selection of the instruments referred to.

The surgery of the pneumatic spaces of the temporal bone is so thoroughly understood, and the same statement applies to the maxillary sinus, that they are referred to only because they serve as the model for the surgical treatment of the accessory cavities of the frontal ethmoidal and sphenoidal bones. My own experience prompts me to suggest and to emphasize the necessity of the same thoroughness in diagnosis and the same prompt and painstaking attention in surgical methods for these obscure lesions of the ethmoidal, sphenoidal, and frontal sinuses, both for exploratory diagnostic and curative purposes. The sinus frontalis is certainly easy of access. Many of its chronic lesions are obscure and unaccompanied by positive clinical evidences, and an exploratory operation can alone disclose the real nature of such lesions, and is certainly justified. The external opening must be preferred to the uncertain method of attempting to find the extranasal opening of the infundibulum and resort to ineffectual attempts to explore or bring about drainage along this channel. This passage can be restored far more easily from above when once a large and roomy opening into the sinus has been made from without and which at the same time gives positive information concerning its contents, dimensions, and the state of its mucous lining. The ethmoidal and sphenoidal sinuses are not so accessible, but the external method is in all operative procedures the one to be preferred to attempts to reach these cavities through the nose.

I have long since abandoned such attempts for these obscure chronic cases and rely mainly on the external operation. In every case of ethmoidal disease, I make a free incision over the frontal sinus and carry it well down on the side of the nose along the internal border of the tear-sac. The soft parts divided and hemorrhage arrested, the periosteum is detached and the tear-sac pushed to one side. The sinus frontalis is then explored, whether found normal or otherwise, its vertical depth is determined, and a point externally which corresponds to it is selected and marked. In a region between this point, which marks the floor of the frontal sinus and the upper inner border of the tear-sac, I perforate the external wall with chisel and mallet, carefully penetrating, with the inner orbital wall as a guide, in a slightly downward direction, until I reach the anterior and middle cells. With greater caution along the same course the sphenoidal cavity may be explored. I have done this but twice (exploration of the sphenoidal sinuses), once for extensive epithelial carcinoma of the orbit and face, which had withdrawn its activity from the surface structures to the accessory sinuses. All were involved and the case terminated fatally. In another case there was the most marked rarefaction of the frontal ethmoidal and sphenoidal sinuses ever found. Two weeks after the operation it required two yards of iodoform gauze, 1½ inches wide, to pack these cavities, which may convey some idea of their enormous dilatation.

THE ETIOLOGY OF YELLOW FEVER.[1]

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THE study of the cause of yellow fever has been carried on during the past two years in South America, and as a result two organisms, isolated by two independent workers, have been described. Early in May of last year there were received at the Pasteur Institute of Paris several cultures from Dr. W. Havelburg of Rio de Janeiro. His article appeared in the *Berliner Klinische Wochenschrift* (1897) and in abbreviated form in the June number of the *Annales de l' Institut Pasteur*. A few days later cultures were received from Dr. J. Sanarelli of Montevideo. Sanarelli's first memoir was published in the June number of the *Annales de l' Institut Pasteur* (1897). This was followed in September by a second, and in October by a third, paper.

At the suggestion of Dr. Roux of the Pasteur Institute I undertook a comparative study of the organisms received from Havelburg and from Sanarelli. It was evident at the start that the two organisms were not identical, and this view was confirmed by subsequent investigations. The next step was to as-

[1] Read before the Michigan State Medical Society, Detroit, May 6, 1898.

certain which of these two organisms might be considered as the causal factor in the etiology of yellow fever. The result, it may be said in advance, was unfavorable to both. My investigations were begun in Paris at the Pasteur Institute, and have been continued on my return to Ann Arbor. It gives me great pleasure in this connection to thank Dr. Roux for his active interest, for the many valuable suggestions received from him, and for the generosity with which he placed at my disposal the unequaled facilities of the Pasteur Institute.

I. COMPARISON OF THE HAVELBURG AND SANARELLI BACILLI.

A careful comparison of the descriptions given by these two investigators will show at once that the two organisms are quite unlike. This fact is fully established on making actual, side by side, comparisons. The bacillus of Havelburg is somewhat thicker than that of Sanarelli. This difference is seen in pure cultures, and especially in stained preparations made from the animal body, as the guinea-pig. The difference is also marked in cultures on agar or gelatin grown at 16° C. They both grow singly or in pairs, and only occasionally are short threads found. A striking difference is met with in the hanging-drop examination. The Havelburg bacillus possesses active Brownian motion, and is devoid of real motility. When grown, however, on gelatin or agar at 16°, a very thick gelatinous cell-wall forms, and the organism then shows no Brownian motion. On the other hand, the Sanarelli bacillus is exceedingly motile. Few organisms, indeed, can be said to possess as active motion. The latter organism, on proper staining, shows the usual long, wavy flagella, whereas the Havelburg organism shows no such appendages. Giant whips, which will presently be described, are met with in cultures of the Sanarelli bacillus, but never in those of Havelburg.

The two bacilli stain equally well by the ordinary anilin dyes, and are not stained by Gram's method. Spore formation has not been observed in either. The indol reaction is always marked with the Havelburg bacillus, especially in cultures thirty-six to forty-eight hours old. On the other hand, the Sanarelli organism produces at most a slight trace of indol. Old agar or gelatin plates of the Havelburg bacillus have a strong amine and indol odor. Milk is coagulated or rendered decidedly ropy by the Havelburg bacillus in about forty-eight hours, but is apparently unaffected by the Sanarelli bacillus. The former, according to Havelburg, coagulates milk in about twelve hours, but apparently on cultivation this property, as in the case of other colon bacilli, is markedly diminished.

The potato-cultures show the well-known characteristics and differences observed between colon and typhoid-fever bacilli. Thus, the Havelburg bacillus, like the former, gives a thick, yellowish, or slightly brownish, rather dry growth; whereas the Sanarelli organism, like the Eberth bacillus, yields a moist, colorless, invisible growth.

On litmus-colored gelatin or agar containing glucose or lactose, at 35° to 39°C. both bacilli develop a marked acid reaction. According to Sanarelli, his bacillus slowly gives rise to an acid reaction. This was also true of the cultures when first obtained from him. Since then the organism has considerably increased its acid-producing power. Gas is produced in abundance in glucose and lactose media by the Sanarelli as well as by the Havelburg bacillus. In this respect, as well as in acid production, the two bacilli correspond to the colon group. The production of gas and acid can be observed in media when these are kept from six to eight hours at 39° C. In Uschinsky's medium[1] the Havelburg bacillus grows exceedingly well, and the growth differs in no way from that given by each of the six distinct colon bacteria that were studied at the same time. On the other hand, the Sanarelli bacillus and seven cultures of the Eberth bacillus of diverse origin failed entirely to grow. This marked difference has been repeatedly met with. In this respect, as well as in potato-culture, the Sanarelli bacillus approaches the Eberth bacillus.

A sharp distinction between the Havelburg and Sanarelli bacilli is observed when these are grown in Esmarch dishes on Stoddart's medium,[2] or in the tube medium of Hiss.[3]

Stoddart's medium has the following composition: Water, 1000 c.c.; gelatin, 5 per cent.; agar, 0.5 per cent.; pepton, 1.0 per cent.; salt, 0.5 per cent. This medium is poured into Esmarch dishes, sterilized, and allowed to solidify. The center of the medium is then *touched* with the organism to be examined, and set aside for eighteen to twenty-four hours at 35° C. Those organisms that possess motion will diffuse as a more or less transparent veil all over the surface of the medium, whereas non-motile bacteria form a small, sharp-bordered colony. Consequently the Sanarelli bacillus diffuses over the entire surface of this medium in a few hours, whereas the Havelburg bacillus shows absolutely no diffusion even after several days. The method is, therefore, of value in differentiating motile from non-motile bacteria, and may be made use of for the isolation of Sanarelli's bacillus from the organs of yellow-

[1] Vaughan and Novy, "Ptomains and Leucomains," p. 24, 1896.
[2] *Jour. of Path. and Bact.*, vol. iv, p. 429, 1897.
[3] *Jour. of Exp. Med.*, vol. ii, p. 699, 1897.

fever bodies. It should be remembered, however, that the motile colon bacilli and the Eberth bacillus likewise diffuse. The Sanarelli and Eberth bacilli, unlike the colon bacteria, diffuse very rapidly, forming a transparent, almost invisible growth.

The tube medium of Hiss is somewhat similar in composition to that of Stoddart, and gives similar results. It contains in addition one per cent. of glucose. A stab culture is planted in the usual way and set aside at 35° C. to develop. If the organism is motile diffusion takes place, otherwise the growth is confined to the line of inoculation. If the organism produces gas an abundance of bubbles will be formed in from eight to twelve hours. The Sanarelli bacillus diffuses perfectly, and gives rise to much gas, whereas the Havelburg bacillus does not diffuse, but does give rise to gas. The colon bacilli in this medium, as a rule, diffuse readily, and gives rise to gas. The Eberth bacillus will diffuse, but does not produce gas. If this medium is colored with litmus it will serve to indicate acid and gas production as well as motility.

On Elsner's medium,[1] potato gelatin, and potassium iodid, the Sanarelli bacillus failed to grow, although repeated trials were made. The several Eberth cultures gave rise to very small typical colonies, whereas the Havelburg bacillus and the various colon bacteria grew luxuriantly. While the colon bacilli tend to spread on the surface in the characteristic manner, the Havelburg bacillus forms the usual surface pin-head colony. Under certain conditions, as will presently be shown, the Havelburg bacillus does give rise to colon-like spreading colonies.

In bouillon the Havelburg bacillus grows very readily, regardless of the reaction of the liquid. Thus, in an acid bouillon, the acidity corresponding to 20 c.c. of normal hydrochloric acid per liter, it grows just as abundantly as in the alkaline boullion containing a like amount of normal sodium hydrate in excess of the neutral point. The growth of the Havelburg bacillus, therefore, is always abundant. A thick ring forms on the glass at the surface of the bouillon, and after the lapse of a few days it takes on a yellowish tinge. The scum which forms is not even and continuous, but consists of floating masses. The liquid remains cloudy for one to two weeks, and only a slight deposit forms. Growth does not form in boullion containing 35 c.c. normal hydrochloric acid per liter.

The behavior of the Sanarelli bacillus in bouillon is, on the whole, markedly different from that of Havelburg. The growth is by no means as abundant. As a rule, no ring or scum forms. A continuous thin scum may, at times, cover the surface of the liquid, especially when the cultures are allowed to develop at about 25° C. Acid bouillon, containing 10 and 20 c.c. respectively of normal hydrochloric acid per liter, remains perfectly clear, and only a trace of deposit forms. While these two organisms show this difference with reference to acid media, they behave about alike in alkaline media. Thus, both develop in bouillon containing 50 c.c. normal sodium hydrate per liter, forming a slight growth. Neither the Havelburg nor the Sanarelli bacillus liquefies gelatin.

On gelatin plates the Havelburg bacillus presents the one characteristic which distinguishes it from an ordinary colon bacillus. The surface colony does not spread, as is usually the case with colon and Eberth bacilli, but remains as a thick convex, glistening opaque-white pin-head. The deep colonies offer nothing special; they are oval or roundish and yellow, and when ten to fourteen days old they become very dark. When the plates are several days old a strong ammoniacal, fecal odor is noticeable. As in the case of bouillon the Havelburg bacillus will grow on gelatin regardless of the reaction.

The Sanarelli bacillus, as seen above, possesses less vegetative force than the Havelburg bacillus. It will frequently fail to show the slightest growth on gelatin. This is not entirely due to the reaction of the medium. Gelatin containing 10 or 20 c.c. of normal NaOH per liter gives excellent growth in two to three days at about 18° C. In neutral gelatin the colonies are considerably smaller, and in gelatin containing 10 c.c. normal HCl. per liter the colonies are mere points. In gelatin containing 20 c.c. of normal HCl. per liter no colonies develop. The so-called typical colonies develop best at 16° to 18° C. on ten per cent. nutrient gelatin. This should not be too hard, and should have an alkalinity of about 10 c.c. of normal sodium hydrate per liter. On hard gelatin, such as fifteen per cent., and grown at 20° C., the colonies are a typical. A little attention to the temperature and to the composition and reaction of the gelatin will always enable one to obtain typical colonies. To obtain a constant low temperature a special apparatus was devised. In this running water surrounds and cools an inner compartment. By regulating the flow of the water it is possible to maintain any desirable temperature from 15° C. up to that of the room itself.

The deep colonies of the Sanarelli bacillus to the eye appear as mere white points. Under the microscope they are perfectly circular. At first they are light-yellow, coarsely granular, but in a few days they become perfectly opaque, dark brown or black in color. When grown on acid gelatin (10 c.c.

[1] *Zeitschrift für Hygiene*, 8, 159; 21, 29.

normal HCl. per liter) the colonies (atypical) do not become dark, but appear as perfectly circular, light yellow, homogeneous, wax-like bodies.

The typical surface colony of the Sanarelli bacillus appears to the eye like a droplet of boiled starch or mucus. It is thick and convex. They may be perfectly circular, but frequently will show a distinct kidney shape. An opaque, yellowish white nucleus can, as a rule, be seen at or near the center, or in case of the kidney-shaped colony at the hilus. Under the microscope the colony appears almost colorless, or with a central, light-brown tinge. It is finely granular, and the border is sharp, perfectly smooth. The nucleus is opaque, and may be round, but more often is hat-shaped, and has even been compared to Saturn with its rings. In the kidney-shaped colony the crown of the hat projects into, or is turned toward the hilus. On hard or acid gelatin only atypical colonies form. These are very small, raised points usually without the nucleus, and the kidney shape is absent.

In stab cultures in gelatin the Havelburg bacillus grows rapidly and abundantly, and the growth is like that of the colon bacillus. The Sanarelli bacillus grows more slowly along the entire line of inoculation, and there is very little tendency to spread on the surface except when the temperature is about 25° C. The growth, on a whole, resembles closely that of hog-cholera.

On agar the two organisms likewise show marked differences. In ordinary streaks on inclined agar the Havelburg bacillus (like the colon) forms at 39°C. a thick, opaque, white growth. On the other hand, the Sanarelli bacillus (like the Eberth bacillus) under the same conditions forms a thin growth, which in transmitted light is almost perfectly transparent. When cultures on inclined agar are grown at 16° C. they present an entirely different appearance. The Sanarelli bacillus forms a convex, thick, moist, slimy growth. This is perfectly homogeneous, transparent, and mucous-like in appearance. It resembles the well-known cultures of Friedlaender's bacillus. The Havelburg bacillus at 16°C. forms thick, opaque, raised growths, which show a distinct zooglea character.

When isolated colonies are obtained on inclined agar they will appear thin and transparent or thick and slimy, according to the temperature at which they develop. When developed for twenty to twenty-four hours at 39°C. the colonies are thin, flat, grayish, transparent, and circular. If they are now placed at 16° C. growth at the edge of the colony will continue, but it will take on the thick, slimy, character already referred to. In two or three days the colonies present a peculiar appearance—a thick, slimy, opalescent ring, inclosing a thin, flat area. In time the slimy growth may invade the central area and cover it up. The colony then appears as an opalescent, mucous-like drop, and eventually takes on a pearly luster. When several colonies are close together the slimy growths may coalesce and give rise to rivulets. Eventually the outer slimy border becomes transparent, and the original colony is seen as an opaque body embedded in it. This change can be hastened by placing the culture in an incubator for twenty-four to thirty-six hours.

These characteristic growths of the Sanarelli bacillus on gelatin and on agar are always obtained if the conditions mentioned are adhered to. The two extremes of temperature are necessary, as well as a distinctly alkaline medium.

Marked differences between the organisms are also observed in their effect on animals. When injected intraperitoneally into guinea-pigs 1 c.c. of the twenty-four-hour bouillon culture of the Havelburg bacillus grown at 39° C., will invariably kill in less than twenty-four hours, more often twelve to fifteen hours. The bacillus is always present in the animal in abundance. Injected subcutaneously it produces a local abscess, and the animal recovers. On the other hand, the Sanarelli bacillus under like conditions is fatal in from five to seven days, although it is possible to have cultures which will kill in less than twenty-four hours. The bacillus is present in relatively small numbers. When injected subcutaneously, unlike the Havelburg bacillus, it proves fatal. The normal serum of man, horse, rabbit, guinea-pig, etc., promptly agglutinates the Sanarelli bacillus, and has no effect on that of Havelburg.

The foregoing comparisons of these two organisms clearly indicate that they are two distinct species.

II. RELATION OF THE HAVELBURG BACILLUS TO THE COLON GROUP.

It may be well to state incidentally that this organism was isolated by injecting into guinea-pigs from 1 to 2 c.c. of the stomach contents of yellow-fever cadavers. It was present in each one of the twenty-one cases thus examined. In his published communication Havelburg called attention to the fact that his organism may be confounded with the bacillus coli communis, and that it is difficult to differentiate these two bacteria.

The distinctions between the two organisms, as laid down by Havelburg, are very slight and wholly insufficient. Thus, the Havelburg bacillus when very virulent shows the bipolar stain, whereas the colon bacillus did not show this behavior. Again, the Havelburg bacillus was non-motile, whereas the colon bacillus was said to be very motile. On gela-

tin the former gives rise to pin-head surface colonies, whereas the latter forms smooth plaques. On potato the former develops moderately, forming a grayish growth, whereas the latter gives an abundant brownish growth. Lastly, the colon bacillus is said to be less virulent than the Havelburg bacillus.

The presence or absence of the bipolar stain is of very little value in differentiating organisms. Almost without exception a bacillus when very short will, on slight staining, give a bipolar stain. The short form of the colon bacillus is no exception to this rule.

The motility of the members of the colon group, as is well known, varies considerably. While some may be exceptionally motile, there are others that are less motile, or even those that possess no motion. Some authors as Kruse (Flugge, "Die Microorganismen," 1896) proposed to designate the non-motile colon bacteria as the B. ærogenes. In other respects the ærogenes and colon group are identical. The motility of an organism is so readily influenced by unfavorable media that it is a matter of no surprise to find colon bacilli of diverse origin showing a difference in motion.

The difference observed in the growths of the two organisms on gelatin plates is such as may be expected between a non-motile and a motile organism. The ærogenes group, as a rule, gives rise to raised pin-head or drop-like surface colonies, whereas the motile colon or typhoid bacillus spreads out in the characteristic thin plaque. On growing the motile colon bacillus, under conditions which will lessen the motility, the surface colonies cease to spread and become hemispherical. The Havelburg bacillus, when grown on fifteen-per-cent. gelatin at 16° C., forms large, thin, spreading, surface colonies in size, shape, and appearance identical with the surface colonies of the Emmerich and other colon bacilli. The deep colonies likewise agree perfectly. Here, as in the case of the Sanarelli bacillus, temperature, consistency, and reaction of the medium exert a marked influence on the form of the surface colony.

The distinction between the Havelburg and colon bacilli in their growth on potato has not been verified. On the contrary, the comparison of the several cultures sent by Havelburg with six colon bacilli of diverse origin showed a marked similarity in color. A faint brownish or yellowish color was given by all. The Havelburg bacillus in general grows more rapidly than the ordinary colon bacillus, and hence the growth on potato is thicker and somewhat dryer than that of the colon bacillus.

The Havelburg bacillus would seem to be more virulent than the ordinary colon bacillus. One-half c.c. of a bouillon culture grown for twenty-four hours at 39° C. when injected intraperitoneally into guinea-pigs will, as a rule, produce death in from twelve to twenty-four hours. The ordinary colon bacillus requires a larger dose, and even this is not always fatal. On the other hand, certain varieties of colon bacillus, when recently isolated, do possess marked virulence. Thus, Emmerich[1] found that his bacillus intraperitoneally killed guinea-pigs in from eight to ten hours. Coppola,[2] studying the same organism, found that subcutaneous injections killed guinea-pigs in twelve to thirty hours. The B. cavicida of Brieger is another variety that at one time was very pathogenic to guinea-pigs.

The following experiment was made with old cultures which have been cultivated in this laboratory for ten years. The Emmerich bacillus was brought from the Berlin Hygienic Institute in 1888. The B. cavicida was obtained about the same time from Král in Prague. Full-grown guinea-pigs received intraperitoneal injections of 1 c.c. of the twenty-four-hour bouillon cultures grown at 39° C.: Guinea-pig No. 1 received the Havelburg bacillus, died in twenty-three hours; guinea-pig No. 2 received Emmerich's bacillus, died in fifteen to eighteen hours; guinea-pig No. 3 received B. cavicida, died in twenty-six hours; guinea-pig No. 4 received B. coli communis, apparently no effect even five days later. The symptoms produced in the first three were exactly alike. The rectal temperature for some time before death in all three animals was 29° to 30°. The post-mortem appearances were likewise similar. There was intense congestion of the abdominal vessels. A white, fibrinous exudate covered the liver. Considerable yellowish or bloody effusion was present in the abdominal cavity. The bacteria, alike in appearance, were exceedingly numerous on the serous surfaces.

It is evident from this experiment that the Havelburg bacillus is not more virulent than certain colon bacteria which have been kept in artificial cultivation for ten years.

On the other hand, the Havelburg bacillus, like the colon bacillus, is not markedly virulent when injected subcutaneously into guinea-pigs or rabbits. At present the injection of one c.c. subcutaneously rarely causes death in guinea-pigs. As with the colon bacillus a small abscess forms at the place of inoculation. Havelburg, moreover, states that his bacillus readily loses its virulence. This is true only to a limited extent, as seen in the above experiment.

The effects observed in guinea-pigs after injection of the Havelburg bacillus, as shown above, agree very closely with those produced by the colon ba-

[1] *Archives für Hygiene*, 3, p. 291, 1885.
[2] *Zeitzchrift für Hygiene*, 2, p. 328, 1886.

cillus. The apparent vomiting caused by the former was observed in the above experiment with B. cavicida and Emmerich's bacillus. It has also been observed by Coppola in his studies on the Emmerich bacillus. This symptom is not one of vomiting, but is rather due to lack of oxygen.

The resistance of the Havelburg bacillus is the same as that of the colon group. Comparisons between this and other organisms will be given in the third part of this paper.

The facts mentioned above, taken in connection with cultural characteristics, as described in the preceding part, clearly indicate that the Havelburg bacillus belongs to the colon group of bacteria. A careful comparison was made between the Havelburg bacillus and six colon bacilli, and the results obtained in every respect confirm this statement.

The greatest similarity exists between Emmerich's bacillus (B. Neapolitanus) and that of Havelburg. They are about the same in form and size, and are both non-motile. The cultural appearances on the ordinary media are such as to render it difficult to distinguish between the two organisms. The Emmerich bacillus, especially when grown in acid bouillon for some time, gives rise to colonies on gelatin plates, which are identical with those of Havelburg. The gelatin plates of both organisms have the same ammoniacal fecal odor. When grown on Elsner's medium, the two organisms give rise to colonies that have the same form and odor, and the surrounding gelatin in both cases is covered by a dark refracting film. Likewise the growths on Hiss' tube medium and on Stoddart's medium present the same characteristics.

It is evident that the Emmerich bacillus, which received a passing notoriety in connection with the etiology of cholera thirteen years ago, is very closely related, if not identical, with the Havelburg bacillus.

The latter may consequently be considered as a non-motile colon bacillus, modified perhaps by a more or less prolonged contact with the hydrochloric acid of the gastric juice. It follows, therefore, that the Havelburg bacillus can in no wise be considered as the cause of yellow fever.

(To be continued.)

Vacancies in the Marine Hospital Service.—A board of officers will be convened at Washington, Wednesday, November 9, 1898, for the purpose of examining candidates for admission to the grade of Assistant Surgeon in the United States Marine Hospital Service. It is desired that applications for this examination be made before November 1st. For further information or for invitation to appear before the Board of Examiners, address Supervising Surgeon-General, United States Marine Hospital Service.

WAR ARTICLES.

A TRUE PEN-PICTURE OF CAMP WIKOFF.

[Specially Reported for the MEDICAL NEWS.]

BY WILLIAM BROADDUS PRITCHARD, M.D.,
OF NEW YORK.

ARMED with numerous letters of introduction as the special representative of the MEDICAL NEWS, I visited Camp Wikoff, at Montauk Point, on Sunday last, and spent the entire day in observations and investigations regarding the general situation, and especially with reference to the health and comfort of the soldiers. My letters of introduction were in every instance acknowledged most courteously, and I was afforded every facility for observation and the acquisition of information in detail. All questions were answered frankly and without evasion, and in not a single instance within my knowledge was any attempt made to conceal or disguise the truth. So uniform and conspicuous was this exhibition of courtesy and frankness as to deserve more than mere passing mention. It affords a guarantee of the accuracy of the information obtained and the facts observed which are herewith submitted.

The Location of the Camp.—The camp stretches in scattered and detached villages of tents over several miles of grass-covered hills swept on all sides by fresh breezes from either the ocean or the sound. The grass is short and thick, and covers the earth as though with matting, affording excellent roadways, except in the valleys and in occasional brackish pools, through and across which roadways have been built. The fields and camp-streets are free from dust. The artificially-made roadways, except when the dust is allayed by sprinkling-carts, are continuously enveloped in clouds of stifling thickness, so continuous is the travel over them. The superficial soil is of rough gravel and sand. There is, according to Colonel Forwood, under this and very close to the surface a thick layer of clay of a type hygienically of great value in that it permits percolation and filtration very slowly. Under this is another layer of sand and gravel, and lower still another layer of clay. Surface-filtrations, drainage, and purity of well-water supply are ideally attainable with such conditions of soil. There is an abundant water-supply from a well equipped with a modern pumping outfit, furnishing 700,000 gallons of pure water daily, which is distributed over the entire camp by a system which is as near perfect, both mechanically and hygienically, as is possible of attainment. The camp is accessible to an unlimited base of supplies, with facilities for transportation by both land and water, the schedule time from New York City by train being less than four hours, and by boat not more than eight or ten. Such are the natural conditions present. How far they have been utilized, how far neglected and abused remains for further comment and consideration.

The Sick at Camp Wikoff.—There are about 20,000 troops at Camp Wikoff. Of this number about 10,000 are sick. This is the estimate, roughly approximated, as stated by Surgeon-Major Brown. The sick are officially classified under three heads: (1) those who are danger-

ously ill, who are in the general hospital or the detention hospital; (2) convalescents, who are also in the general hospital or who are discharged on furloughs and leave the camp altogether, and (3) walking cases, or "office patients," so to speak, who are not ill enough to go to bed or to the hospital, but who are not well enough for regular duty. Of the seriously sick there are nearly 1100 in the general hospital, and about 600 or 800 in the detention hospital. The very large number of men who are on the daily "office-patient" sick-list seriously handicaps the efficiency of the entire camp. These men are not able to do picket or police duty, or even to serve as orderlies or on special details. In consequence the relatively small number of men who can be called upon for these various duties are overworked, and are unable to attend to their work efficiently. In one battalion of the 24th Infantry only one officer is well enough to perform his duties, and out of the entire battalion only eight well men could be furnished in compliance with an order for a special detail of twenty-four men. How important these various duties are may be readily understood from the statement that they include the policing of the camp and hospital streets, the tents and latrines, the transmission of orders from point to point, the carrying of food and supplies in small quantities, assistance in transferring the newly arriving sick soldiers from the landing to the hospital, manning the ambulances, and a thousand and one other duties. The entire camp is short-handed, and the effect is felt in every department. This is true in spite of the fact that the camp employs more than 2000 laborers, teamsters, carpenters, and various other employees as extra men. It is for the purpose of overcoming this deficiency and of relieving the overworked, many of whom have become ill, that a movement is on foot to add to the camp one or two regiments from other posts which have not been decimated by disease.

Shall Camp Wikoff Be Abandoned?—The question as to the abandonment of Camp Wikoff hinges, of course, as has been abundantly intimated in both the lay and medical press, upon the probable development of typhoid infection of the water-supply. I discussed this aspect of the subject with Dr. Nicholas Senn, Colonel Forwood, and Major Brown. In answer to my inquiry Dr. Senn stated that he had nothing further to add and nothing to withdraw from the opinions which he had already expressed on the subject which have been widely, though not altogether correctly, disseminated through the lay press. He believes that infection of the existing water-supply is absolutely inevitable. How long it will take for this to occur is largely a matter of conjecture. It may take a week, or three weeks; it may exist already, or occur within a day or two. The continuance of existing conditions makes it an absolute certainty sooner or later. In this opinion Colonel Forwood concurred. This infection of the camp with typhoid fever is not in any way a reflection upon the wisdom or skill exhibited in selecting this camp. Typhoid fever, to a greater or less extent is an inevitable accompaniment of all military camps. The United States Army records will show that even two or three companies in garrison for as long as a year, will lose one or two men from typhoid fever. The larger the camp the greater the proportionate number of typhoid cases. Colonel Forwood does not believe that the official water-supply of Camp Wikoff is at present infected, and he further believes that the geologic conformation of the strata met in boring the well used, is such as is most favorable to the preservation of the purity of the water.

Major Brown, when asked as to the possibility of typhoid infection from other sources, such as dust from the roadways, soil pollution on the surface, fly infection from the latrines, etc., stated that every intelligent precaution is being observed to guard against such sources of possible danger. Disinfectants are in use every where throughout the camps, in the latrines, and especially in the hospital wards and streets. Flies are not numerous, a fact which I personally noted. Surface-soil pollution has been provided against by orders, violation of which is met with immediate arrest and imprisonment. A laborer was under arrest at the time of my visit for just such an offense.

I was greatly pleased to learn in this connection from Colonel Forwood that the impression created by the lay press that the regular army medical officers are not in agreement with Dr. Senn in his opinion as to the danger of a typhoid epidemic is absolutely false; on the contrary, he and Dr. Senn are in exact and harmonious accord on this subject.

Hospital Facilities.—There are two hospitals in camp, the general and the detention. The general hospital as it exists to-day is a marvel of perfection, and reflects the highest credit upon the efficiency of Colonel Forwood who planned its arrangement and carried out personally its establishment and equipment. To those unfamiliar with the difficulties and obstacles encountered a full appreciation of the success attained is impossible, but even the most captious can find to-day little if anything to criticise or condemn. Colonel Forwood has been most ably and energetically aided in the entire work by Surgeon-Major Ira C. Brown, in my humble opinion the hardest worked and most patient bearer of many burdens in all Camp Wikoff. I sat in Major Brown's tent for nearly two hours, and during that time by actual count he transacted business with forty-seven different people. A mother wished to find her sick soldier boy; a newspaper reporter wanted a bit of information; a nurse or orderly brought an order to be signed for medicines or delicacies for the sick; a sick furlough was wanted by this one; another wanted a permit to remove one of the dead—so they came one after the other, sometimes several at once. All were treated courteously, every requisition for the sick was granted at once, there was no abruptness or impatience of manner or speech. I found myself wondering again and again how it could possibly be done. Incidentally Major Brown found time in the occasional intervals to give me much information of interest and value. The hospital, he said, was fully equipped with physicians and nurses. One physician, in fact, a volunteer, unable to secure an assignment in the wards, had taken off his coat and done yeoman's service

in the diet-kitchen, rendering most valuable aid to the sick from that position. All hospital supplies, drugs, and appropriate food, and even delicacies for the sick, were on hand in abundance. I, myself, had an opportunity to verify this statement through the requisition clerk of the pharmacy department, who later stated to Colonel Forwood in my presence in presenting a requisition for some twenty or thirty articles the supply of which had been that day mostly exhausted, that he had everything else which was needed, and in abundance.

Major Brown spoke very appreciatively of the work done and the aid rendered by the Red-Cross Society and the Women's National War Relief Association. Not the slightest trace of official jealousy was apparent; on the contrary, his tribute was most generous and frank. Of the sick by far the largest number were cases of malaria; they outnumbered all the other sick, including the "office patients," ten or even twenty to one. The worst and most intractable cases of malaria have been found in the soldiers from Tampa. Many of these cases passed into a typhoid state but were not true cases of enteric fever. True typhoid fever was steadily decreasing both in the number of cases and in the malignancy of the type. The death-rate in the hospital was falling daily. In nearly all cases of both typhoid and malaria the disease germs were present in the system before the soldiers had landed. Much of the fatality from pernicious malarial fever in Cuba and elsewhere has been due to the fact that a great many of the surgeons, especially the volunteers from the New England and Northern States, were not familiar with the heroic treatment necessary. They gave 3 and 5, and sometimes 10, grains of quinin every two or three hours, when they should have given 20 grains at a dose, or even more until the disease was checked. To those who have practised medicine North and South, and who are familiar with the difference between the malaria of the South and the so-called, or it may be actual malaria of the North, this statement possesses a peculiar significance. It also explains the frequency of relapses and the increased virulence of the malarial poison from a prolonged stay and uncontrolled development in the system.

Of the detention hospital, its equipment, efficiency, and management, I can only report at second hand, as I did not visit it at all. I was reliably informed, however, that it is at present as free from all openings for criticism as the general hospital. This was not the case, in one respect at least, a short time ago, since a most serious mistake existed in the appointment as chief diagnostician of a medical man whose qualifications were pitiably deficient. Of this appointee I was told, he had never seen a case of yellow fever in his life. His successor is, I understand, a most capable and efficient medical officer, possessing special qualifications for his post.

The Landing of Soldiers.—Nearly all the troops coming to Camp Wikoff arrive on transports and are landed at one of the two docks, both of which are near the railroad station. It was here that I found most opportunity for criticism, and much, very much to condemn. Thankful indeed should be the returning soldier who passes this Rubicon with safety or even with life. There are two docks, the one owned or controlled by the railroad, near the depot, accessible with some difficulty, the approach being over a network of car-tracks and down a rather steep embankment; the other, perhaps a quarter of a mile distant, much more advantageously located and easy of approach. The latter dock is private property, but its importance and advantages being seen at once by Dr. Kinyoun of the Marine Hospital Service, it was at his suggestion seized and made the headquarters of the Marine Hospital Quarantine Service, which is represented by Drs. Magruder, Kinyoun, and Brunner. These three gentlemen, amply equipped with able assistants, ten in number, and experienced attendants to the number of twenty-four, have charge of all water quarantine. Their equipment is superb and the service has been absolutely without reproach except from one source, which in reality reflects the more credit upon them, a matter to which I shall later refer at more length.

A lookout watches for an expected transport. As soon as the vessel is sighted in the offing Dr. Magruder goes out and boards and inspects her. All passengers to be landed are put through an elaborate routine of disinfection, which process includes, of course, all equipments, clothing, and, indeed, everything which is to be brought on shore. A specially designated medical officer is then notified that the transport is ready to be unloaded, being notified at the same time of the number of sick on board. This medical officer is supposed to remain on duty at the dock and superintend the landing of the sick, providing fresh milk, soup, necessary drugs and stimulants, as well as stretchers and ambulances. An officer from the Quartermaster's Department is also on duty here. These sick men are carried at once to the detention hospital. Not knowing exactly when a transport is to arrive or how many sick are on board, each arrival involves a special order for supplies, ambulances, etc., through various channels, with all the cumbrous details of red-tape routine, involving invariably some delay. Such delay, together with inefficiency in providing for the situation, has cost more than one life, one poor fellow recently dying on the dock for the lack of a stretcher and a little whisky. If the medical officer in charge had had *on* his person for this poor fellow's use one-tenth of the whisky which he had *in* his person one life at least could have been saved.

The sufferings and hardships of *privates* on these transports, as seen by eye-witnesses who told me of them, almost exceed the limits of human belief. Ships have come in, notably the "Mobile" and "Catonia" loaded with desperately sick men piled like baggage in the hot, stifling hold, with only army rations for food and not enough of that, rotten water, no medicines, and not even a surgeon in attendance, while the officers, to their everlasting shame and disgrace be it said, have come in healthy, well-kept, and attended by servants, fed on the best food, including fresh beef and vegetables, and with not only water but in some instances ice. My informant, who mentioned only what he saw, told me that no less than sixteen cases of insanity had been noted by him among the returning soldiers due to suffering and starva-

tion. No sick-records accompanied the men, not even the diagnosis. In many cases the men did not even know their doctors. Men sick with malaria, typhoid, dysentery, and sometimes yellow fever, were all bunched in together and the diagnosis could only be made after some days of observation in the detention hospital. This fact, by the way, explains why it has been impossible to send the typhoid or any other patients directly into the hospitals of New York, Brooklyn, Boston, Philadelphia, and other cities. The diagnosis had to be made in the detention hospital. Many of these men killed themselves through a ravenous indulgence, half starved as they were, in the sandwiches and soups which they greedily ate, helping themselves without knowing the danger and without being guarded from it by careful discrimination and oversight. Many of these unfortunate conditions are attributable to gross carelessness of the officers under whose supervision the transports were unequally loaded in Cuba. Some vessels with a capacity for 350 brought only a few officers and attendants, while others were badly crowded.

It is self-evident, of course, that sick men in such quarters and under such circumstances should be landed as expeditiously as possible. Even an hour's delay might, and often doubtless did, mean the death of a man. A due appreciation of this necessity should have led, one would think, to the observance of every precaution in order to avoid delay, and yet, as a matter of fact, no vessel has been unloaded yet without the loss of several hours of valuable time unnecessarily. I myself was witness to this fact. The "Roumania" was sighted early Sunday morning in the bay. Dr. Magruder went out and boarded her. At 10 o'clock he notified the proper authority that the troops could be landed. It was four o'clock in the afternoon before she was brought to the dock. She had on board 660 soldiers, more than 200 of them sick. A part of the delay was due to slowness in filling the requisition for milk. This was not the fault of the officer in charge, however. Two hours more were lost hunting for the medical officer, who was finally found, I was told, in a privy asleep. It was expected that all the soldiers would be landed by ten o'clock that night. To some of them that ten-hours' delay meant death. In some reliably reported instances—one was mentioned to me specifically by an eye-witness—the landing of several hundred sick and starving men was delayed for hours by the inhumanity of the officers on board in insisting that they be disinfected and allowed to land first. The colonel of the regiment had to exercise his full authority to control a condition of almost open mutiny among his officers. There were, of course, brave, humane, and kindly officers—officers who gladly sacrificed their own comfort for the welfare of their men. They were, in fact, in a great majority, but the brutes were far too numerous for the honor and good name of our Army. It is to be hoped that this particular matter will occupy the closest attention of the proper investigating authorities. If one-tenth of what I was told is true, and I have no reason to doubt one word of it, more than one officer, regular and volunteer, should have his straps torn from his shoulders and his sword broken.

A REFUTATION OF THE FALSE STATEMENTS CONCERNING CAMP WIKOFF.

[From Our Special Correspondent.]

CAMP OF THE ROUGH RIDERS, CAMP WIKOFF, MONTAUK POINT, L. I., September 6, 1898.

HAVING been at Montauk Point for more than two weeks, and having carefully inspected every part of the encampment on my own account, and not having seen any daily papers, I was horrified to read a day or two since that this was indeed a pest-infected camp, and that it was only a question of a few days before we should all be occupying six feet of earth on the Golgotha on the hill near the general hospital.

I started for this sick bay in fear and trembling; its condition must be beyond words, the death-rate appalling! I shuddered as I passed a water-pipe containing the death-dealing fluid told of in the papers, and made a long detour to avoid one of the small ponds laden (as I had read) with malarial germs which were far more deadly than any we had gotten into our systems in that wretched Cuba. I had heard from the mother of a 71st New York boy that he had had nought but coffee and hardtack at Col. Forwood's hospital, so I filled my saddle-bags with extract of beef, jams, and marshmallows. This may seem a curious mixture for a physican to take to the sick, but another mother had brought this combination to the men in our regimental hospital, and complained bitterly that my friend, Dr. Forwood, had not allowed her to distribute them at his place, for, she said, "several poor sick fellows of the 33d had written friends that they were not permitted these and such delicacies." The actual conditions which I found at the general hospital I shall give later in this letter.

To one who is familiar with this encampment the alarming reports which certain papers have sent out are little short of mendacious. Families all over the country are in a panic, and terrible and unnecessary suffering has been caused. Poor people have spent their little savings and been led into debt to pay their way from far distant points to rescue their sons from the death and starvation which they had read was encompassing the boys here. General Wheeler told me of a case of an old couple who had come several thousand miles and brought with them a little bag of things for their starving boy. Their starving boy was, as a matter of fact, making a good recovery in the hospital.

I now propose to give a plain and absolutely just account of matters here. I hope to show how little truth there is in all these wild stories, and incidentally how unjust are the criticisms of Dr. Forwood.

A. The Situation of the Camp.—This was decided (1) after careful consideration of the climate and weather prevalent here at this time of the year, and from this standpoint the decision was a wise one. *It has rained one day in the last twenty.* (2) After a thorough investigation of the geological formation, with reference, of course, to the water-supply. This island lies upon what is known as the Potomac beds, the strata consisting of alternate layers of clay, gravel, and sand, extending down to the rock. It goes without saying that this forms an

ideal combination for a pure water-supply. An examination of the water made *before* the final decision was made showed that it contained neither limestone, sulphur, gypsum, nor salt. The artesian well from which our water is taken was sunk to a depth of from fifty-five to sixty feet; that is to say, the six-inch pipe goes to that depth. A consideration of the strata shows that any infected water which might percolate to that depth must have been cleared of its impurities. The newspapers have had much to say about the small ponds which dot the surface here. These, of course, have a clay bottom through which the rain-water does not percolate. It is practically all evaporated. The water here is the same used all over Long Island, and I have never heard that it is poisonous hereabouts. The impression has been given by some papers that we are drinking the water of the lake on the right near the station. One correspondent sent by a certain "public irritator" gravely stated that he saw men washing their clothes and watering their horses in the fount of our water-supply; and this grossly ignorant statement I have heard quoted time and time again.

The ground here becomes dry surprisingly quick after a rain; there is always a cooling breeze, and a physician who has practised in this immediate section for twenty years tells me there is very little if any malaria here, and finally, what the New York *World* is pleased to call the swamps "about which our brave soldiers are encamped" are, as I have shown, absolutely harmless little surface pools. So much for the situation of this much-abused camp. General Wheeler told me, and gave me permission to say so, that he had never seen nor could he think of a more ideal situation for a camp.

B. The General Hospital, the Death-rate, and the Care Received by the Sick.—There has been at times a lack of cots, *but no patient has ever slept on the bare floor*. Mattrasses there have always been in plenty. I have seen the hospital when it contained no less than 1600 sick; at such a time there has been here and there a commode which should have been emptied; there have been men dying without a woman's hand to soothe (women's hands are always supposed to soothe), but who were unconscious and beyond any human power to help. I have heard men complaining that they were not immediately waited upon, which is not to be expected in such a huge place, *but* I have never seen any one really neglected. I have seen distracted parents and friends bitterly complaining that they could not find some sick man. For this Dr. Forwood and Dr. Brown have been abominably abused. The parents and friends did not know that many men have been brought to Dr. Forwood and to Dr. Brown either totally or partially unconscious and without even a piece of paper to establish their identity. In this connection I am convinced that at first there was a sad lack of method and care in keeping the records. But this has been remedied.

As to the death-rate. This has been grossly and shamefully exaggerated. Up to 3 P.M. Sunday, September 3d, 6040 cases had been received. There had been up to the same hour 150 deaths; making a death-rate of exactly two and one-half per cent. Surely this should satisfy even the most fault-finding; it is very small in any case, but incredibly small when the condition of the men when received is considered, and bears a striking tribute to the care received in the hospital.

As far as the condition of the sick men in the regiments goes, their state could be and is being improved. Division hospitals are now established (they should have been erected before) and the men of the different divisions will soon be as well cared for as the sick in the big hospital.

This brings me to the question of regimental hospitals; and whatever may be the objection to them in the field *they should be a part of the medical service of every regiment when encamped for any length of time*. With the permission of Colonel Roosevelt I established one for our regiment, and I do not hesitate to say that it has been nothing short of a blessing to the sick, and we have seen a number of men really restored to health through the care and nursing here received. Our treatment has consisted largely if not entirely in careful dieting. The Cuban experience left many with stomachs and intestinal canals in a frightful state. The general health of this regiment is more than satisfactory, and indeed, that of all the troops quartered here is surprisingly good.

And so I have given you the facts about things here. I trust what I have written will serve to stop, in part at least, the panic about the "suffering and starvation of our poor troops," about which the papers have so much to say. I might add that I had a long interview on this whole matter with Dr. Forwood, and was also most cordially received and given a long talk by that most courteous of old soldiers, General Wheeler.

FRANK DONALDSON, M.D.,
Assistant-Surgeon, U. S. V.

GENERAL STERNBERG'S ANSWER TO HIS CRITICS.

To the Editor of the MEDICAL NEWS.

MY DEAR SIR: I am very much occupied with important official business in connection with the care of our sick soldiers in all parts of the country, but will take a little time to give you my opinion with reference to Montauk Point.

I am responsible for the selection of Montauk Point as a camp for our returning soldiers, and I do not believe that another place could have been found on the Atlantic Coast presenting so many advantages. We have over five thousand acres of land, never before occupied by camps or by human habitations. The soil is covered by a good growth of grass and affords excellent camping-ground. We get good water from wells, which are sufficiently removed from the camps to prevent any possibility of fecal contamination. The Point is swept by the ocean breezes and has all the advantages of a seaside resort. There is a fine sheltered harbor where our largest ships can anchor, and there is a line of railroad giving direct communication with Brooklyn and New York. No doubt this camp, if occupied for some time without proper regard to essential

sanitary precautions, would become infected with typhoid fever as other camps have been.

If the recommendations, which I made in my Circular Letter of Instructions, April 25, 1898, had been followed at Camp Thomas, Camp Alger, and other camps where typhoid fever has prevailed, I believe that the number of cases of this disease would have been comparatively small. I believe, with other sanitarians, that typhoid fever is a preventable disease, and long since in my prize essay on "Disinfection and Individual Prophylaxis against Infectious Diseases," published in 1886, I insisted upon the disinfection of the excreta of patients with typhoid fever in the following words:

"The dejections of patients suffering from an infectious disease should be disinfected before they are thrown into a water-closet or privy vault. This is especially important in cholera, typhoid fever, yellow fever, and other diseases in which there is evidence that the infectious agent is capable of self-multiplication, in suitable pabulum, external to the human body."

In my "Manual of Bacteriology" this recommendation is repeated, and detailed instructions are given with reference to the disinfection of excreta. I also call attention to the value of quicklime as a disinfectant, as follows:

"Experiments made in Koch's laboratory in 1887 by Liborius led him to place a high value upon recently burned quicklime as a disinfectant. More recent experiments by Jäger, Kitasato, Pfuhl, and others have shown that this agent has considerable germicidal power in the absence of spores, and that the value which has long been placed upon it for the treatment of excrementitious material in latrines, etc., and as a wash for exposed surfaces, is justified by the results of exact experiments made upon known pathogenic bacteria. The germicidal power of lime is not interfered with by the presence of albuminous material, but is neutralized by phosphates, carbonates, and other bases, and by carbonic acid.

"In the writer's experiments a saturated aqueous solution of calcium oxid failed to kill typhoid bacilli; but when suspended in water in the proportion of 1:40 by weight this bacillus was killed at the end of two hours. Anthrax spores were not killed in the same time by a lime wash containing twenty per cent. by weight of pure calcium oxid. According to Kitasato, the typhoid bacillus and the cholera spirillum in bouillon cultures are destroyed by the addition of one-tenth per cent. of calcium oxid. Pfuhl experimented upon sterilized feces to which pure cultures of the typhoid bacillus or cholera spirillum were added. The liquid discharges of patients with typhoid fever or diarrhea were used for the purpose. He found that sterilization was effected at the end of two hours by adding fragments of calcium hydrate in the proportion of six per cent., and that three per cent. was effective in six hours. When a milk of lime was used which could be thoroughly mixed with the dejecta the result was still more favorable. A standard preparation of milk of lime containing twenty per cent. of calcium hydrate killed the typhoid bacillus and the cholera spirillum in one hour when added to liquid feces in the proportion of two per cent.

"The experiments with this agent show that time is an important factor and that much longer exposures, as well as stronger solutions, are required to destroy pathogenic bacteria than is the case with chlorid of lime. For this reason we still give the last-named agent the preference for the disinfection of excreta in the sick room. But in latrines the time required to accomplish disinfection is of less importance, and *we are disposed to give recently burned quicklime the first place for the disinfection of excreta in privy vaults or on the surface of the ground.* It may be applied in the form of milk of lime, prepared by adding gradually eight parts, by weight, of water to one part of calcium hydrate. This must be freshly prepared, or protected from the air to prevent the formation of the inactive carbonate of lime."

In the "Manual for the Medical Department," which is supplied to every medical officer in the service, I have introduced the following paragraphs:

"121. Sulphate of iron and other cheap antiseptics and deodorants may be used when necessary. But the necessity for their use is a reproach upon the sanitary police of a post, and should only be required under exceptional circumstances. The alvine discharges of healthy persons do not require disinfection, and when properly disposed of do not require treatment with any chemical agent whatever. If water-closets or earth-closets are offensive, this is due to faulty construction, to insufficient supply of water or dry earth, or to neglect of ordinary cleanliness. The attempt to remedy such defects by the systematic use of antiseptics is expensive and unsatisfactory in its results. The same is true of foul drains, bad-smelling urinals, accumulations of garbage, etc. The proper remedy for such conditions is cleanliness and strict sanitary police.

"122. When accumulations of organic material undergoing decomposition cannot be removed or buried they may be treated with an antiseptic solution, or with freshly burned quicklime. Quicklime is also a valuable disinfectant, and may be substituted for the more expensive chlorid of lime for disinfection of typhoid and cholera excreta, etc. For this purpose freshly prepared *milk of lime* should be used, containing about one part, by weight, of hydrate of lime to eight of water.

"123. During the prevalence of an epidemic, or when there is reason to believe that infectious material has been introduced from any source, latrines and cesspools may be treated with milk of lime, in the proportion of five parts to one hundred parts of the contents of the vault, and the daily addition of ten parts for one hundred parts of daily increment of feces."

Having thus pointed out what should be done, and having authorized the purchase of quicklime for disinfecting purposes in unlimited quantities at Montauk Point and at our other camps, I am not responsible if there has been a neglect to carry out those sanitary measures which are essential for the preservation of the health of troops in camp. All experienced officers of the line, and medical officers, know that it is dangerous to remain for a long time on one camping-ground. In Circular No. 5 from my office, dated August 8, 1898, I say:

"The attention of medical officers is invited to Circular No. 1 from this office, dated Washington, April 25, 1898.

"The extensive prevalence of typhoid fever in camps of instruction indicates that the sanitary recommendations made in this circular have not been carried out. If medical officers have failed to make the proper recommendations as indicated, the responsibility rests with them. If the recommendations have been made and not acted upon by those having authority in the various camps, the responsibility is not with the Medical Department, but these recommendations should be repeated and commanding officers urged to move their camps at frequent intervals and to maintain a strict sanitary police."

At Montauk Point there is plenty of room and there will be no excuse if the camps are occupied for so long a time as to endanger the health of the troops through typhoid infection. Moreover, the regiments now there are some of them being mustered out and others have been ordered to return to the military posts occupied by them before the war. We are doing our best to take care of our sick, and, at the same time, to prevent the extension of infectious diseases at Montauk; and, as I have already stated, I consider this an ideal place for the purpose.

Very truly yours,

GEO. M. STERNBERG,
Surgeon-General U. S. Army.

WAR DEPARTMENT,
SURGEON-GENERAL'S OFFICE,
WASHINGTON, D. C., September 4, 1898.

BLOOD EXAMINATIONS AT CAMP WIKOFF.

BY J. RICHARD TAYLOR, M.D.,
OF SAG HARBOR, N. Y.

HAVING heard many conflicting accounts of diseases to be found at Camp Wikoff I spent almost a week at the general hospital there recently by invitation of Colonel Forwood, Assistant Surgeon-General United States Army, and made microscopical examinations of the blood of such patients as were placed under my care for that purpose. All who were examined had been thoroughly exposed to malaria and most of them had received more or less quinin. The examinations were all made with fresh blood and from 3 P.M. Tuesday until 6 P.M. Saturday forty-three were examined for malaria and one for tuberculosis. The following list shows twenty-four cases in which the plasmodium was found in repeated examinations and nineteen cases in which the results were negative so far as the microscope was used, though in most of these the clinical evidence was plain and correct.

Tuesday, August 23, 1898. Lieutenants T. and A. M. M., spherical hyaline bodies, non-pigmented, extracorpuscular; Captain H. and Lieutenant L., spherical hyaline bodies, non-pigmented, extracorpuscular, also a few ring-shaped bodies free.

Wednesday, August 24th. Captain S., intracorpuscular, non-pigmented bodies; Lieutenants R. and W., large pigmented spherical bodies, extracorpuscular; Lieutenants La F. and H., examination negative; Lieutenant J. K. M., intracorpuscular non-pigmented bodies; Private H. G., Co. C, 8th Regulars, free pigmented spheres.

August 25th. Lieutenant L. G. B., 2d Mass., examination negative; Lieutenant P. W. D., 22d U. S. Infantry, intracorpuscular hyaline bodies with unmistakable evidence of typhoid fever; Lieutenant H. C., 22d U. S. Infantry, examination negative; Lieutenant E. J. L., intracorpuscular non-pigmented bodies; Lieutenant H. T. G., 2d Mass., intracorpuscular non-pigmented bodies; Captain J. J. L., 2d Mass., intracorpuscular non-pigmented bodies; Lieutenant F. B. M., 2d Mass., intracorpuscular non-pigmented bodies; Captain J. J. C., 22d U. S. Infantry, intracorpuscular non-pigmented bodies; Lieutenant H. L. J., 22d U. S. Infantry, intracorpuscular non-pigmented bodies; Lieutenant A. C. K., 2d Mass., intracorpuscular non-pigmented bodies, clinical evidence of typhoid fever; Lieutenant F. W. S., 12th Regulars, examination negative; Lieutenant W. L. T., 22d U. S. Infantry, intracorpuscular non-pigmented bodies; Lieutenant W. B. L., 9th Infantry, examination negative; Captain J. F. R. L., 6th Cavalry, examination negative.

Friday, August 26th. Dr. J. S. K., Assistant Surgeon Division Hospital, examination negative; Captain C. H., 4th U. S. Infantry, free pigmented crescents in *large* numbers, semicomatose—a pernicious case; Lieutenant A. M. H., 4th Artillery, free pigmented crescents, not very plentiful, general condition good; Lieutenant J. A. M., 24th U. S. Infantry, examination negative; Lieutenant H. R. P., 17th U. S. Infantry, examination negative; Lieutenant W. M. B., 8th Ohio, small pigmented bodies, extracorpuscular, very active; Lieutenant A. I. R., 71st N. Y., small non-pigmented bodies, extracorpuscular, very active.

Saturday, August 27th. Lieutenant H. E. B., 8th Ohio, examination negative; Lieutenant H. A. L., 7th U. S. Infantry, examination negative, wounded at El Caney, photo. in *Munsey's*, page 811, September, 1898; Lieutenant J. C. R., 6th Cavalry, examination negative, delirious, had received no quinin; Lieutenant A. C., 17th U. S. Infantry, examination negative; Private A. D. K., Co. H, 2d Mass., examination negative, patient comatose; Lieutenant B. F. H., 17th U. S. Infantry, examination negative; Lieutenant K. W. T., 8th Ohio, examination negative; Lieutenant H. M. B., 1st D. C. Volunteers, examination negative; Lieutenant R. B. H., 1st D. C. Volunteers, examination negative; Major C. H., 1st D. C. Volunteers, free pigmented crescents; Lieutenant P. W. D., 22d U. S. Infantry, intracorpuscular non-pigmented bodies, still undoubted evidence of typhoid fever; Sergeant T., Troop E., Rough Riders, clinical evidence of tuberculous infection proved by finding the tubercle bacilli in sputum.

Most of the above subjects were very much troubled with nausea and diarrhea, a condition *quite common* in cases of tertian fever on Long Island. Quinin given improperly only aggravates the distress of the patient in such cases, while in small doses properly combined with other remedies it is retained, absorbed by the system, and promptly relieves all the above conditions. Unfortunately the pharmacy at headquarters was not stocked with necessary remedies and the patients had to swallow or reject such doses as could be found. The surgeons were

obliged to hear constantly, "the goods are not in stock and prescription cannot be filled." Comment is unnecessary and the words one wishes to utter are not sufficiently expressive.

CLINICAL MEMORANDA.

MALARIA MANIFESTED BY EPILEPTIFORM CONVULSIONS.

By J. B. MAXWELL, M.D.,
OF MT. CARMEL, ILL.

CASE I.—On September 1, 1894, I was called to see Mr. C., married, twenty-three years old, of slender build, on account of his having fits. He, with his wife and others, had come down the Wabash River in an open boat, the journey occupying two or three weeks. He had landed near Mt. Carmel and had been working and fishing, meanwhile living in a tent on the river bank. He suddenly became ill, developed high fever, and in an hour or two had convulsions. I was sent for in the evening, but was unable to see him until the following morning. He had not had a chill, as far as the attendants knew, but had very high fever and one convulsion right after another, there having been sixteen in all. Before I arrived he had become somewhat better, the fever having declined, and the attendants had noticed that as long as he lay perfectly still, the fits did not occur, but when he sat or stood up he was immediately convulsed.

The people were not particularly intelligent, and I did not know just how much dependence to put on what they told me, so I had him stand up, and he had a typical epileptiform convulsion. I had never seen a similar case, but the cachectic appearance, the season of the year, the location of the man's living apartments, the high fever, and things in general convinced me that the trouble was malarial, and I began a vigorous antimalarial treatment, which resulted in complete recovery, there being no recurrence for three months, at which time I lost sight of my patient.

CASE II.—On August 21, 1895, I was called to see George J., single, twenty years old. I was told that he had been having chills and all treatment had been unavailing. He had no appetite, had become very weak, and was having fits often, especially when he tried to walk. My informant gave it as his opinion that the convulsions were due to masturbation. Upon examination I found the patient's liver much enlarged and very tender on pressure. The spleen was enormously enlarged and there was a typical malarial cachexia present. He had been living for some months in the Wabash River bottoms, where ponds are numerous and the conditions for malaria are first-class. I had him stand up, and verified the report of the convulsions that had been given me. I gave him 15 grains each of calomel and bicarbonate of soda, and after the bowels had been thoroughly evacuated I gave him 30 grains of quinin in four doses, two hours apart. I then prescribed a teaspoonful thrice daily of a combination containing 1 dram of sulphate of quinin, 3 drams of dilute nitric acid, and 4 ounces of whisky. His recovery was prompt and perfect. I have seen him occasionally since, and he is well and has had no return of the convulsions.

Only two cases that are at all similar to these have hitherto been reported, so far as I know, the first by Dr. Frederick Hill Stanbro, in vol. 61, page 683 of the MEDICAL NEWS. In this case there was some doubt about the cause of the convulsions, but since they disappeared promptly after the administration of quinin they were undoubtedly of malarial origin. The second case was reported by Dr. E. W. Tudlow, in vol. 67, page 428 of the MEDICAL NEWS. In this case the convulsions were at first somewhat irregular, but later occurred every other day and continued to do so for six months or more, the patient finally being cured by the administration of quinin.

A BROWNIE BABY.[1]

By WHYTE GLENDOWER OWEN, M.D.,
OF WHITE CASTLE, LA.

THOUGH the history of monstrosities is usually relegated to the domain of scientific curiosities, yet the clinical phenomena attendant upon their birth merit the consideration of the obstetrician. And again, when the much-discussed question of maternal impressions can be clearly demonstrated in their production, the subject is one not destitute of interest to all concerned in the evolution of the human race. Allow me, therefore, to claim your attention for a brief description of the following case of labor resulting in a remarkably abnormal development of conception:

On the 25th of last October I was called to see Mrs. B., a multipara, aged twenty-eight years, white, of good personal and family history. She stated that she had been having severe pains about four hours, and an examination revealed an enormous distention of the abdomen, which on palpation showed fluctuation only. The cervix was found to be well dilated, but occupied by the tense bag of waters alone. No fetus whatever could be detected. The same condition of affairs continued a couple of hours, during which time pains of moderate intensity recurred every ten or fifteen minutes. At the expiration of this time I ruptured the membranes, which resulted in the release of a miniature Niagara which fairly deluged both the patient and the bed.

Having "cleared the decks for action" by having the patient dried, regowned, and removed to another bed, an examination was instituted, and instead of the finger impinging upon some known portion of the child's anatomy the os was found to be occupied by a smooth, soft, cartilaginous body. My first impression was that this was a fibroid tumor, and deeming an exact diagnosis imperative for the patient's welfare I administered chloroform and introduced my hand. Imagine my surprise to find that the tumor extended to and connected with the head of the fetus.

A dose of ergot, and friction applied to the fundus uteri, excited vigorous contractions, which soon resulted in the delivery of the child, and cleared up the mys-

[1] Read at the Annual Meeting of the Louisiana State Medical Society, New Orleans, May, 1898.

tery of the presentation. The child was an exact reproduction of one of Palmer Cox's "Brownies," with the grotesque features, frog-like abdomen, and spindling limbs so familiar to all. Its most remarkable feature, however, was its cap—the thing which had puzzled me so greatly in making a diagnosis of the presentation. This consisted of a hood of fibrous tissue, of purplish hue, which originated in a space of probably 2½ inches on the top of the cranium and extended upward and outward about the same distance. The child weighed about eight pounds, was still-born, and it was soon the center of attraction for a curious throng of feminine neighbors who flocked in to view it.

Reverting to the cause of this *lusas naturæ*, I ascertained that during the first month of the mother's pregnancy her little boy brought home a wooden "Brownie" about 15 inches long, with its cap painted red. He threw this unexpectedly into his mother's lap, thereby giving her quite a shock, though afterward she was considerably amused upon examining the toy. I was extremely anxious to obtain possession of the child in order to submit it for your inspection, but as this conflicted with the religious convictions of the parents I was unable to do so.

MEDICAL PROGRESS.

Pneumonia after Ether. — ANDERS (*University Med. Mag.*, August, 1898), in an exhaustive article upon ether pneumonia, says that he has collected statistics of 12,842 etherizations, thirty of which were followed by pneumonia. The percentage of pneumonia is, therefore, .23; while if only gynecologic cases are included, the percentage is as high as .33.

Regarding the cause of such pneumonia, the writer says that the old idea that it is due to careless exposure to cold, etc., will not explain all cases. He further states that the theory that infection takes place from the mask or cone used, is not supported by facts. Thus, in hospitals, where a fresh sterilized towel was employed, the percentage of pneumonias was not less than that where a fixed apparatus was employed. Besides this, the apparatus with which nitrous oxid is given, is of all others the best adapted for the conveyance of infection; yet no case of pneumonia following the administration of this anesthetic is on record.

Others have stated that mucus from the nose and throat, being drawn into the trachea during narcosis, predisposes the patient to an attack of pneumonia. This may be avoided in large measure by keeping the head of the patient low. The writer is inclined to attribute some weight to this cause, as eight of the thirty patients who developed pneumonia admitted having had a previous cold or cough. Sex and age seemed to have no etiologic importance, and none of the patients, as far as could be ascertained, had had a previous attack of pneumonia. The greater likelihood that a gynecologic operation will be followed by pneumonia, is due apparently, to the greater length of such operations.

Regarding the clinical peculiarities of ether pneumonia, Anders says: "The clinical features bear a striking similarity to those of secondary pneumonia, as do also the morbid lesions, according to the distribution of the areas implicated, and as evidenced by the physical signs. It has been frequently observed that there is a tendency in secondary pneumonia to commingling with small areas of bronchopneumonia. Moreover, the lung tissue surrounding the hepatized areas is apt to be more extensively congested than in the primary form. Microscopically, the combined presence of the streptococcus and the micrococcus lanceolatus have been noted. From the latter fact, coupled with the well-established clinical similarity between secondary and ether pneumonia, as observed by myself, I do not doubt that a mixed infection often occurs in the latter form of the disease."

The diagnosis is easily made if the chest is examined. Unfortunately, this is often not done immediately, the symptoms being attributed to the wound. It is, therefore, desirable to emphasize the important fact that the sudden accession of fever, particularly if it occur coincidently with thoracic pain, however slight, following an operation, renders a physical examination of the thorax imperative.

Of the mortality in the thirty cases, the author says: "As stated, thirteen of the thirty cases of pneumonia proved fatal, a percentage of 43.3. Surely, if ether be responsible for these fatalities, even though indirectly, there is great likelihood that, when other ill consequences are considered, it is but little less dangerous to life than its rival, chloroform."

The treatment of the patient before an operation which is most likely to lessen the danger of subsequent pneumonia includes the cure or amelioration of any existing bronchitis or rhinitis. At all events, a thorough cleansing of the mucosa of the nasopharynx is imperative, so as to prevent the aspiration of irritating morbid products (desiccated secretion, incrustations), with their lurking micro-organisms, from the higher to the lower respiratory passages, and the setting up of pneumonia, since ether promotes separation of these foreign substances. An appropriate toilet of the nasal passages as a routine practice is to be advised and encouraged. To this should be added a mouth-wash of some efficient antiseptic solution, and a similar spray for the throat. The head of the patient should be turned to one side from time to time during the operation to allow the escape through the mouth and nostrils of the mucus which collects in the pharynx. And most important of all, the time of anesthesia should be shortened as much as possible, consistent with the thorough execution of the operative procedures. In long operations especially, the cooling of the skin of the patient should be guarded against, and no sudden transition from a hot operating-room to a cold ward or hall should be allowed. It goes without saying that the quantity of ether used, and the mode of its administration, are important factors in the development of ether pneumonia.

Acute Chloral Dementia Simulating Paretic Dementia.—COE (*Medicine*, August, 1898) emphasizes the wisdom of keeping a patient to whom hypnotics have been given under

observation a sufficient length of time to learn if perchance it may not be a case of drug-habit insanity, as even learned alienists may be mistaken in the diagnosis of these cases. Two patients were recently brought to him for treatment, in whom the symptoms of paretic dementia were so well-marked that this diagnosis had been made without hesitation. One of these was a lady, aged fifty-six, married, of good family and without hereditary taint, who had been ill during the past five years, and had delusions, transitory in character, of a grandiose form, some months previous to the time of coming under the observation of a most excellent family physician. Ataxia was marked, especially in the lower limbs. General tremor was present, and the tongue could scarcely be extended, so marked was the trembling of that organ. There was pupilary inequality and the speech was tremulous. Insomnia was marked, and for this and the shifting pains in the back and limbs a well-known proprietary article, the chief constituent of which is hydrate of chloral, had been employed in moderate quantities for about a year and a half. Recently this amount had been increased, yet the total amount taken did not exceed on an average twenty grains of chloral daily. The prognosis which had been given was gloomy; but in six weeks after the discontinuance of all hypnotics, the patient was so far restored to health, that she assumed the management of her estate.

In the other case, the symptoms were similar, except that the mental break down was more complete, and the patient by his own admission, had taken large doses of chloral. The withdrawal of this drug was followed by the most distressing symptoms, but in four weeks they all subsided, and the patient was able to take an ocean journey to his own home.

THERAPEUTIC NOTES.

How to Rub in Salicylic Acid in Rheumatism.—HUSSON (*Rev. de Therap.*, July 15, 1898) employs the following formula when he wishes to introduce salicylic acid through the skin of a patient who is suffering from rheumatism:

℞	Ac. salicylic. pulv.	3 j
	Ol. terebinth.	3 j
	Lanolin	3 viij.

The skin is first to be cleansed with soap and water, but is not to be shaved, as the pulling upon the little hairs favors the introduction of the remedy through the skin. Friction should last for at least five minutes. After the friction is over the limb should be wrapped in cotton in order to preserve an even temperature. Treatment is to be repeated daily. One inconvenience of this method of administering salicylic acid is the desquamation of the epidermis, on account of the solvent action of the acid upon the cornified layer. However, this desquamation does not occur until five or six days have passed, and by that time the therapeutic effect of the drug has usually been fully realized. At any rate, desquamation is not painful, and treatment should not be suspended for this cause. This method of administering salicylic acid is rapidly gaining favor on account of the annoying gastric complications which so often follow the ingestion of the drug or its compounds.

Atropin in Delirium Tremens. — TOUVIME (*Rev. de Therap.*, July 15, 1898), acting on the statement of Mendel that in delirium tremens some of the centers of the brain are in a state of depression, has attempted to remove this depression and so favor the recovery of the patient by the administration of caffein and atropin subcutaneously. The results obtained with the former drug were found to have only a theoretical importance, but with the latter the beneficial effects were prompt and striking. He administered it to 11 patients, of whom 6 had furious delirium, and 5 delirium of a mild type. Of these 11 patients, 10 became calm after a single injection of atropin, and in fifteen or twenty minutes they were all asleep. The dose employed was 1/60 of a grain of the sulphate. In the eleventh case, 1/40 of a grain was given in the evening to the patient, but he still remained greatly agitated. On the following morning, after a cold bath, he became more quiet, and toward evening, he, too, fell into a refreshing sleep. A non-alcoholic patient who suffered from post-operative delirium, received injections of 1/40 of a grain of the sulphate each morning and evening. He was completely restored in five days. These most interesting facts certainly call for a further trial of this drug in such cases.

Results of the Immunization of Fifty Children.—COUES (*Boston Med. and Surg. Jour.*, July 14, 1898) gives an account of the effects of the immunization of the children in St. Mary's Infant Asylum, Boston. An epidemic of diphtheria of unknown origin had broken out among them, and from February 15 to March 22, 1898, eighteen cases of the disease occurred. On the latter date it was decided to immunize all the children then in the asylum, and also all those who might be admitted. This plan was forthwith carried out, and for nearly three weeks from that date no cases of diphtheria occurred. At the end of this period, and before any children were immunized for a second time, cases of diphtheria again began to occur. They continued to develop until all the children were again immunized, and then, as at first, no fresh cases of diphtheria developed.

The immunizing dose varied from ½ to 5 centimeters of a serum of 1000 units strength. Urticaria occurred in fourteen out of the fifty children who were given injections. The older children were not affected at all by the injections, playing about as usual. The infants cried, and were restless for a few hours, and their temperature sometimes reached 101° F.

An Agreeable Form of Administering Trional.—According to DR. HABERMANN'S observations (*Allgm. Med. Central Zeitung*, No. 32, 1898), the exhibition of trional in a carbonated alkaline water facilitates its absorption, renders it more agreeable to take, and produces hypnotic effects in much smaller doses.

THE MEDICAL NEWS.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

COMMUNICATIONS are invited from all parts of the world. Original articles contributed *exclusively* to THE MEDICAL NEWS will after publication be liberally paid for (accounts being rendered quarterly), or 250 reprints will be furnished in place of other remuneration. When necessary to elucidate the text, illustrations will be engraved from drawings or photographs furnished by the author. Manuscripts should be typewritten.

Address the Editor: J. RIDDLE GOFFE, M.D.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK.

Subscription Price, including postage in U. S. and Canada.

PER ANNUM IN ADVANCE	$4.00
SINGLE COPIES	.10
WITH THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, PER ANNUM	7.50

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AND NOS. 706, 708 & 710 SANSOM ST., PHILADELPHIA.

SATURDAY, SEPTEMBER 10, 1898.

PROPER FOOD THE ESSENTIAL FOR OUR RETURNING SOLDIERS.

FROM week to week it has been the unpleasant duty of the MEDICAL NEWS to protest loudly against the unnecessary waste of life that followed the assault upon Santiago, attended the transports while returning with the sick and wounded, and, finally, is disorganizing and necessitating the abandonment of the volunteer camps. The apparent inability of the soldiers to recover their strength and get upon their feet suggests something more than official incompetency, and makes the demand for Congressional investigation imperative. The assertion of Commissary-General Eagan that the army ration is regulated by an act of Congress, that it is prescribed by a hard and fast law of the land which neither he nor any other officer has a right to change, throws a flood of light upon the slowness with which the troops, as a whole, are recovering their wonted physique and why patients afflicted with dysentery and diarrheal troubles so generally succumb.

In the army two classes of men are recognized and provided for: sick men and well men. The sick men are in hospital, the well men outside. The men not in hospital are supposed to be able to attend to their duties—no matter what their condition there are no special foods for them. Hardtack and bacon constitute the prescribed fare. They must eat that or nothing. This arbitrary classification has worked disastrously at Camp Wikoff and is continuing to do so. The men there who have stomachs for regular army rations are a very inconsiderable minority. The surgeons in testifying to the cause of death are compelled in many instances to write "starvation" owing to the absence of any pronounced disease. The general vitality is so impaired that the digestive functions are not equal to the mastery of regular army food. The whole camp should have been declared by the surgeon-in-chief "a hospital camp," and every soldier, upon his arrival, put upon hospital diet, with the privilege of supplementing it if he had the inclination and capacity for a hardier menu. Many convalescents could thus have been saved from a relapse and death, and many "ailing" men could have been kept out of hospital. The good condition of the Rough Riders is largely attributed to the delicacies which a diet-kitchen established in their camp has been providing for those unable to eat ordinary food.

The Porto-Rican army, which is already seriously infected with malaria, typhoid fever, and intestinal disease, is on its way home. May it not be that the experience gained at Camp Wikoff will lead to the prompt establishment of diet-kitchens throughout their detention camp so that every soldier can have all the nourishing soups, eggs, custards, broths, and other special foods that he may need? Let us grant that the established army ration is the best diet for the soldier in active service; but army traditions, and army customs, and army regulations should not carry us so far as to forget that the volunteer of three-months' training and experience has not become so inured to hardtack and bacon that his vital powers cannot be better sustained and the advance of disease better resisted by a more easily assimilated diet. Being a soldier no longer means that he must get his nourishment out of hardtack and bacon, or die.

TROPICAL DIARRHEA.

AMONG our troops in the tropics, equally in the West and East Indies, there will be more or less mortality due to the prevalence of both tropical

diarrhea and tropical dysentery. These two diseases as met with in the tropics are much more grave in results and less amenable to treatment than in the temperate zones. They are due primarily to climatic influences which cause debility and cachexia. Tropical diarrhea is most frequently found among adults. It is essentially a chronic disease, insidious in onset, slow in progress, and if allowed to run its course unchecked, produces permanent pathologic changes in the digestive tract. Its etiology is found in anything that upsets the nervous equilibrium—anxiety, sleeplessness, errors in diet, overfeeding, excessive use of stimulants, chronic malarial infection and impure water-supply. Interference with the portal circulation, especially in cirrhosis of the liver, found among the high-livers of the foreign colonies in China, India, and the Straits Settlement, who, in addition to eating highly seasoned food at late hours, begin the day with cocktails, drink half-and-half frequently during its course, and go to bed on a nightcap of Scotch whisky. The preparation of the system having thus gone on insidiously, a sudden change of temperature, causing chilling of the abdomen, sudden meteorologic changes, without any appreciable surface chilling, or the shock from an imprudent cold plunge, will be immediately followed by the prodromal symptoms of the disease, which generally are slight, being only looseness of the bowels attended by tormina, quick in onset, urgent in character, and which are relieved by the passage. Some cases may have a history of the existence of a chronic non-inflammatory diarrhea a few days or weeks preceding these more acute symptoms. The character of the dejecta varies, but generally at first they are bilious, becoming lighter in color and frothy. In a few instances the first few days of the disease will be marked by feces perfectly natural in appearance but ejected with great precipitancy and some pain a number of times a day.

This condition of affairs may continue a few days or weeks, the patient growing gradually more emaciated, anemic and weak, yet, strange to say, possessing an excellent appetite and eating not only regularly but voraciously. Tenderness of the tongue and aphthous ulcers in the mouth now appear. The patient looks sick, his skin hangs loosely and is of a dirty white hue, and waxy, the fat disappears, the eye becomes glistening and sunken, mucous membranes become pale, the ilia are prominent, the abdomen flaccid and sunken, and by palpation the coils of intestines may be easily marked out. The tongue is now no longer flabby but narrow and red, and its papillæ are imperceptible. The dejecta have become more frequent and fluid, the tormina more severe, and blood may be passed. The heart action grows feeble, mental apathy and physical lassitude are marked, and unless the patient be at once sent north, he soon passes into a hopeless condition.

As tropical diarrhea is the result of a general systemic degeneration, of which the intestinal changes are the most marked, the prognosis must naturally depend upon the stage in which the disease is recognized and treatment inaugurated. If taken in hand before prominent visceral changes have occurred, and if the patient is not debilitated by age or past dissipation, the vast majority of cases should terminate favorably. Perhaps there is no disease in which a greater variety and number of remedies have been recommended by authors of experience. A moment's reflection will convince one that the treatment must be symptomatic; that the symptoms must be traced to their etiology. For example, if there be obstruction to the portal circulation, astringents are contraindicated and catharsis necessary; if the diarrhea be due to cardiac insufficiently producing stasis, digitalis and iron are of great value. Waring, Luinaens, Fothergill, and many others, advocate the administration of ipecac; this may be given in small, frequently repeated doses, or in single doses sufficient to cause emesis. The writer has not been led by experience in either the tropics of the east or west to place much reliance upon this treatment. Most authorities agree upon the value of castor oil repeated according to symptoms and followed by either astringents or antiseptics.

If a single-routine plan were to be adopted for the *majority* of cases, such as are met with in camp where there is no time to go exhaustively into the etiology of each case, it might advantageously be as follows: Calomel in repeated doses for twenty-four doses, to be followed by a full dose of castor oil, and this, in turn, to be followed by a powder of salol, soda, and bismuth every two hours until the patient is convalescent. In the majority of cases, 10 grains of salol alone can be advantageously administered every hour during the first day, every two hours dur-

ing the second day, and, if the case has been a primary one, three times a day thereafter for about one week. If the case be of a more obstinate type, the treatment by salol may have to be continued even two weeks, interrupted occasionally by a dose of castor oil. During this time the diet must be restricted to boiled or malted milk. After the recovery of the patient from the primary attack, recurrences should be avoided by strict attention to prophylactic measures. Abdominal flannel bands should be worn constantly, and the use of fatty, sweet or highly seasoned foods, and alcohol in any form should be forbidden. From long observation among civilians and officers I am able to state unreservedly that even the moderate use of stimulants in the tropics is injurious and liable to cause gastric and hepatic changes which open the way for the gravest form of intestinal complications. Drinking water should always be boiled and filtered, and the receiving-tanks should be regularly inspected by medical officers, and periodically flushed. Exposure to the falling night dew should be avoided, and one should never sit down in wet clothing. In the jungles of Central America and in the lowlands of Central China I have never seen a case of disease due to the patient being wet while in motion or on the march, and often I have known officers and men to be soaked to the skin all day long. The danger lies in not removing the wet clothing when exercise ceases.

Add to these few and simple precautions the immediate dose of an aperient at the slightest sign of intestinal irritation, and a day or two of restricted diet, and the danger of an attack of tropical diarrhea will be greatly reduced.

The treatment of the more severe acute cases and all of the chronic forms can be summed up in a few words: send the patients home, at least temporarily, and on the road treat them symptomatically, always remembering that it is never wise to wait for a temporary improvement in the patient before starting him on the journey.

J. EDWARD STUBBERT, M.D.

ECHOES AND NEWS.

No Yellow Fever in the State of Florida.—A letter from Dr. Leslie W. Weedon, health officer of the State of Florida, dated August 25, 1898, conveys the information that there has not been a case of yellow fever in the State of Florida this season.

Deaths among Spanish Prisoners.—The Spanish transport "Isla de Paney" from Santiago with a detachment of the surrendered Spanish troops on board has arrived at Coruna station. There were seventeen deaths on the steamer during the voyage.

A New Water-Supply for Camp Wikoff.—In accordance with the recommendation of Engineer-in-Chief Melville of the Navy, the distilling-ship "Iris" has been sent to Montauk Point. It is estimated that the vessel can furnish 60,000 gallons of distilled water per day.

The American Association of Obstetricians and Gynecologists.—The eleventh annual meeting of this Association will be held in the banquet-hall of the Monongahela House, Pittsburg, Pa., Tuesday, Wednesday, and Thursday, September 20, 21, and 22, 1898. In addition to an interesting program, consisting of scientific papers, a special feature of the meeting will be a presentation of pathologic specimens and their early histories with discussion pertaining to the same. Dr. Charles A. L. Reed of Cincinnati is president, and Dr. W. W. Potter of Buffalo, secretary.

The Army Hospital at Fort Monroe.—One pleasant oasis in the unfortunate condition of the Army hospitals is to be found at Fort Monroe Hospital. The inspector of the Red-Cross Society reports that the red-tape side of the management of hospitals is conspicuously absent, both in the mess-hall and in the sick wards. The men are a clean, happy-looking lot, most of them convalescent. The food given the men is good in quality and appetizingly cooked and served. The surgeons are men not too young to be without experience nor too old to have lost the distinct personal pride in the results of their treatment. They are capable as well as enthusiastic. No further assistance is required from the Red-Cross in this hospital.

Yellow Fever at Santiago de Cuba.—In the daily sanitary report to the Marine Hospital Service, dated August 18, 1898, the surgeon in charge says: "I have the honor to inform you that at the request of Military Governor-General Wood I visited the civil hospital to diagnose a suspected case of yellow fever. I made the examination and found a true case of the fever and had the patient isolated. It is the only case I have seen up to date. The mortality has gone down somewhat, as only forty-five deaths were reported to-day—civilians twenty-seven, military hospital fourteen, civil hospital four, Americans none. The Spanish troops are leaving now quite steadily, and we expect that by the end of the month they will all have departed. Many die on the way to the ships, and the majority embark in bad condition."

The Earnings of Medical Men in France.—M. Henri Berenger discourses in the *Revue des Revues* more or less pleasantly, but apparently with authority, on the intellectual proletariat in France. Here are some of his observations referable to the medical profession: There are in the whole of France, inclusive of Corsica but excluding Algeria, between 12,000 and 13,000 practising medical men

of whom 2500 live in Paris, the remainder being distributed throughout the provinces. As regards the metropolitan practitioners the following is the approximate scale of earnings: 5 or 6 earn between $40,000 and $60,000 per annum, from 10 to 15 earn about $30,000; 100 earn $10,000, 300 earn between $3000 and $6000, 800 earn between $1600 and $3000, 1200 earn less than $1600. Of the 10,000 provincial practitioners not more than half make a decent livelihood. Every year the various universities turn out about 1200 qualified doctors of medicine. The average duration of a practice may be set down between twenty and twenty-five years; it follows, therefore, that the production is twice as great as the demand. M. Berenger's statistics may be correct, but apparently he neglects to make allowances for the young medical men who are absorbed each year in the army, navy, and colonial services. Ten thousand practitioners for the whole of provincial France seems, moreover, to be anything but a liberal estimate, seeing that the number on the "British Medical Register" is at least three times greater.—*Lancet.*

Official View of Camp Wikoff.—President McKinley says: "What I saw of the care of the sick in the hospitals by those in charge and by the noble women engaged in that work was especially gratifying." Vice-President Hobart says: "I am agreeably surprised at the facilities I found at Camp Wikoff, particularly in the hospital service. I am not an army officer and have not a full experience in the judging of camps and camp systems, but it seems to me that Camp Wikoff is admirably adapted to army purposes at this time as a camp for recuperation. The hospital and hospital service seem to me perfect in appointments and system, and well adapted for the rapid recovery of the sick. Its location, its surroundings and its climatic conditions could not be improved. The men, with their trained nurses, cheerful surroundings, full medical equipment and good hospital service, will soon be ready to be sent home or to more permanent quarters. The country is rich enough, prosperous enough, and most anxious to give to these heroes every consideration, every comfort, and every luxury that they deserve or require." All of the rest of the Presidential party expressed themselves as delighted with the camp, especially Senator Proctor, who was enthusiastic over the location and all that he had seen in the hospital. General Wheeler in his official report dated September 3d says: "The distinguished physician, Dr. Senn of Chicago, asserts that the fever patients are much better taken care of at Camp Wikoff, both medically and in nursing, than in any other hospital he has ever seen, and the convalescents, as a matter of fact, are living luxuriously." General Shafter says: "Camp Wikoff is an ideal spot. If there is anything the matter with it, it must be under ground."

Report on Yellow Fever in Rio de Janeiro since the Year 1850.—Hon. Eugene Seeger, United States Consul-General to Brazil, in a recent report has the following to say regarding the occurrence of yellow fever at Rio: "The first appearance of yellow fever in Rio de Janeiro in December, 1849, undoubtedly constituted an event of graver importance than anything that has happened here before or since. From that time on this terrible scourge has exercised its pernicious influence on the development of the great Brazilian metropolis, which would otherwise be one of the most healthy of the world's great cities, as it certainly is one of the most beautiful. As far as shown by the official records, yellow fever has caused in Rio, up to July 1 of this year, the death of not less than 54,461 of its victims, 939 since January 1. The American brig "Brazil" from New Orleans, by way of Havana, brought the infectious microbes to Bahia (November 3, 1849), whence the disease was carried into Rio. It is a characteristic feature that the foreign-born inhabitants constitute not less than about eighty-five per cent. of the victims of yellow fever. Newcomers are all in great danger during the summer months. (Of the very few foreign diplomatic and consular officers living in Rio, there died during this season: The minister of Chile, the Haitian Consul, the Chancellor of the French Consulate, and the Chargé d'Affairs of Chile.) One of the results of this condition is the fact that during the fever season (from the beginning of December to the end of May) most of the foreigners live in the more or less remote suburbs in the mountains surrounding Rio, where they enjoy a comparative immunity from the plague. This, of course, involves a great expense and a great loss of time. The best known and most frequented of those health-resorts is Patropolis, since 1894 the Capital of the State of Rio de Janeiro, about 2500 feet above the level of the sea, in the Serra da Estrella. The diplomatic corps, with but few exceptions, and the majority of the foreign business men reside there with their families, most of whom have to make daily trips to Rio. The permanent injury caused to Brazilian commerce, trade, immigration, etc., by the yellow fever is enormous. It cannot be denied that the local authorities are doing a great deal within their limited financial means and under the peculiarly difficult ethnological conditions to fight this plague."

Railway Accidents.—The advance sheets of the Annual Report of the Interstate Commerce Commission for the year ending June 30, 1897, gives the following statistics: The total number of casualties in the United States to persons on account of railway accidents for the year ending June 30, 1897, was 43,168. Of these casualties 6437 resulted in death, and 36,731 in injuries of varying character. Of railway employees, 1693 were killed and 27,667 were injured during the year. According to the three general classes these casualties were divided as follows: Trainmen, 976 killed, 13,795 injured; switchmen, flagmen, and watchmen, 201 killed, 2423 injured; other employees, 516 killed, 11,449 injured. The casualties to employees resulting from coupling and uncoupling cars were, killed, 214; injured, 6283. The corresponding figures for the year ending June 30, 1896, were 229 killed and 8457 injured. The casualties from coupling and uncoupling cars were assigned as follows: Trainmen, killed, 147; injured 4698; switchmen, flagmen, and watchmen, killed, 58; injured, 1325; other employees, killed, 9; injured, 260. The casualties resulting from

falling from trains and engines were as follows: Trainmen, killed, 325; injured, 2726; switchmen, flagmen, and watchmen, killed, 32; injured, 357; other employees, killed, 51; injured, 544. The casualties to the three general classes of employees mentioned caused by collisions and derailments were as follows: Trainmen, killed, 250; injured, 1327; switchmen, flagmen, and watchmen, killed, 11; injured, 74; other employees, killed, 42; injured, 251. The total number of passengers killed during the year under review was 222, injured 2795. Ninety-three passengers were killed and 1011 injured in consequence of collisions and derailments. Other than employees and passengers the total number of persons killed was 4522; injured, 6269. Included in these figures are casualties to persons classed as trespassers, of whom 3919 were killed and 4732 were injured. From summaries showing the ratio of casualties, it appears that 1 out of every 486 employees was killed and 1 out of every 30 employees was injured during the year. With respect to trainmen, including enginemen, firemen, conductors, and other trainmen, it appears that 1 was killed for every 165 employed, and 1 injured for every 12 employed. One passenger was killed for every 2,204,708 carried, and 1 injured for every 175.115 carried. Basing rates upon the number of miles traveled, it appears that 55,211,440 passenger-miles were accomplished for each passenger killed, and 4,385,309 passenger-miles for each passenger injured.

CORRESPONDENCE.

A POSSIBLE CURE FOR NERVOUSNESS.

To the Editor of the MEDICAL NEWS.

DEAR SIR: As the wife of a physician I have become convinced that much of the nervousness of the American people comes from the fact that two persons occupy the same bed. Again and again in a practice of twenty years have the beneficial effects of separation been noted. The stronger body always draws from the weaker. Sometimes the wife, sometimes the husband is the sufferer.

"Sleep with her, doctor," said the husband of a patient, "I couldn't sleep with her any more than I could with a catamount." His wife was afflicted with herpes zoster. Said the wife of a clergyman, herself the picture of health, "No, I cannot sleep with my husband, I seem to take all his strength and he wakes in the morning completely exhausted." Mrs. A., a physician's wife, became so nervous that she was on the verge of insanity. Dr. A. would lie by her side in uneasy, heavy sleep, dreaming of driving his horses and visiting his patients; or, worse still, grating his teeth and snoring. The wife confessed to me that she thought of her coffin with longing as a place that would be dark and still and where no one would "joggle" her. Two years ago Mrs. A. began sleeping on a cot at the bedside leaving her husband the bed "to thresh around in." At this writing she is almost cured of her nervousness and the doctor frequently answers night calls without her knowledge. Two sisters, the Misses F., were separated with beneficial results; also the Misses W., sisters; also, the Misses M., sisters.

The Misses D., sisters, refused to be separated. They continue to look like a couple of sick owls. These are only a few of the cases that have come under our observation. In the case of pregnant women and delicate children it is only repeating what is well known to say that they should sleep alone.

If the doctor be a man of tact, and if, in the case of man and wife, the bed and not the room be changed, people will almost always be guided by the advice of a physician in whom they have confidence and whom they respect and love. The family physicians of our country are the guardians of the public health and they should educate our people on this matter till it is as well understood as the fact that it is dangerous to health to have a dirty dishcloth or to drink impure water.

L. C. FAIRMAN,

LYNDVILLE, N. Y., August 25, 1898.

OUR FOREIGN LETTER.

[From Our Special Correspondent.]

GERMAN DOCTORS AND SPECIAL STREET PRIVILEGES IN URGENT CASES—A BOOM FOR VEGETARIANISM AND A RECENT LEGACY TO THE CITY OF BERLIN—CONGRESS FOR THE ADOPTION OF MORE HYGIENIC CLOTHING FOR WOMEN.

BERLIN, August 29, 1898.

A VERY interesting movement among German medical men just now is the effort to secure for doctors when on urgent calls the right of riding and driving through city streets as privileged persons. The first step in this line came at Augsburg, in South Germany, some time ago. Doctors who ride bicycles were, when on hurry calls, allowed to display in addition to their license number, a tag bearing a red cross upon a white ground. This secured them practically the right of way over all other vehicles and the police were instructed to aid them in making their rights in the matter effectively available. Other German towns adopted the same regulation, which promises to become universal in Germany.

In Berlin, as in some other German cities, in order to avoid accidents, bicycles are forbidden on certain of the busier streets. The regulation is a most salutary one and has saved Berlin from frequent sad accidents that occur elsewhere. Of late there has been question in police circles of still further restricting bicycling by forbidding the wheels on other streets. As this necessitates many a detour and at times even frequent dismounting, Berlin doctors have asked for the privilege in hurry calls of riding on all streets. So far their request has always been refused, but it is confidently expected that now, with the example of smaller towns as models of the feasibility of granting such privileges, the Berlin doctors will secure the favor as soon as the further closing of streets to bicycles goes into effect.

Another privilege asked for several times by Berlin doctors, but so far not granted, seems likely now to come up for favorable reconsideration. Street-cars in Berlin, as in most places on the Continent, have a certain number

of places for passengers, more than this the conductor is not allowed to take fares for. It sometimes happens then that at busy hours of the day three or four cars may pass a given point, each containing its full complement of passengers. It would be very easy to carry one more (the proverbial capacity of a street-car is just one more I believe) because ample room is accorded each passenger in the original allotment of space for passengers. Doctors who are not infrequently delayed on urgent cases perhaps by the existence of this otherwise very praiseworthy regulation, have demanded to be allowed the privilege of being carried as extra special passengers. As I have said, it seems at present as though the privilege would be accorded them. A further movement in this line of street privileges is that permitting doctors' vehicles of all kinds the right of way on displaying some suitable emblem that indicates an urgent call. German medical men are, as may be judged from these movements, thoroughly alert to secure the privileges their duties to patients demand and the spirit of professional cooperation which is at the bottom of the movements is thoroughly commendable and deserves the study and imitation of medical men elsewhere who feel the need of corresponding privileges.

At the last meeting, before the university vacation, of the Association of Visiting and Resident Physicians to the Charité Hospital, Berlin, there was a discussion by the assistant director of the hospital of the terms of a recent legacy to the city of Berlin. The Professor of Law at the University of Berne in Switzerland, Dr. Julius Baron, a former resident of Berlin, left his estate, a large one, to the city of Berlin for the purpose of establishing a home for orphans and abandoned children. To the legacy, however, is attached the condition that the children shall be brought up according to the principles of vegetarianism. By vegetarianism, the maker of the bequest explains that he means that they shall not be fed on any material that comes from dead animals of any description. Flesh and fish are to be absolutely excluded from their dietary, though products of living animals, butter, milk, cheese, honey, eggs, etc., may be permitted. The main articles of food, however, are to come from the plant kingdom.

The legacy was absolutely dependent on the conditions mentioned. The funds were to be managed entirely separate from all other city funds and were bound up by their legal bequeather, as the funds of a ward in chancery, and only the interest actually accrued was to be used, so that absolute provision was made for the perpetuity of the new institution which was to bear the name "Professor Baron's Vegetarianisches Kinderhaus" (vegetarian home for children).

In the discussion at the medical meeting at the Charité it was considered that it would be inadvisable for the city of Berlin to accept the legacy under the conditions named. Vegetarianism was to be looked upon only as a fad whose devotees even in adult life run no inconsiderable risk of serious constitutional affections owing to uncalled for interference with the normal metabolic requirements of human beings as at present constituted. The question of children being brought up on any such one-sided diet was thought to be a dangerous and almost inevitably unsuccessful experiment that would result in weakened constitutions and enfeebled health. The magistrates of the city of Berlin thought differently from the doctors, or perhaps the large legacy dangled before the eyes of the city fathers thus temptingly was too substantial an argument against any merely medical opinions, and the legacy was accepted with its conditions.

There will be an excellent chance then in a few years to study the effect of absolute vegetarianism from the earliest years upon human beings. It is to be hoped that the gloomy forebodings of the doctors for the result of the trial will not be fulfilled. There is certainly in the light of our present knowledge of metabolism, an air of experimental research about it that would seem to make it unjustifiable. This was not, however, the idea of its founder, for years himself a confirmed vegetarian and a firm believer in the possibilities of vegetarianism to eradicate many of the physical evils, and as most vegetarians, some of the moral evils too, that afflict mankind.

A very interesting event, for vegetarians at least, has occurred since the first announcement of the bequest and its terms. Just at the beginning of July the Turning Club of Berlin held a bicycle contest, a so-called *Tages-Dauermarsch*, a continuous day's travel, the contestants in which to get a place, must have completed 15 German miles (112.5 kilometers, about 70 English miles) in 18 hours. The contest was won by a vegetarian who made the distance in the record time under the conditions (we quote German papers) of 14 hours and 11 minutes. He arrived at the finish in comparatively good condition, fresh and not exhausted. Of 23 other contestants 8 were vegetarians and 6 of them were the first in the contest and made the distance within the time limit. Only 1 of the 15 non-vegetarians made the distance within the time, all the others having to give up. The winners had no special training for the event, but were like the other contestants, ordinary members of the Turning Club. During the run the vegetarians consumed only sweet fruits, fresh salads, and some bread and milk. So long as the meat-eaters remained in the race the difference as to the two classes of contestants in the matter of exhaustion was very striking and in favor of the vegetarians, who looked fresh and unruffled when the others were already playing out.

The event has attracted a great deal of attention in Germany. The army officials have consulted the winner and his friends as to their diet and habits and have instituted a set of investigations as to their power of standing military fatigue on a vegetable diet. So far the results are said to be surprisingly favorable to the energy that can be developed on a dietary so supposedly insufficient. The result has been a boom to vegetarianism otherwise in Germany, and the number of vegetable restaurants has notably increased in Berlin. Though the idea seems so foreign to German notions, there have always been some, while those that exist are much more frequented than before.

From the 3d to the 18th of September the Association for the Improvement of Women's Clothing and of Hy-

giene for Women holds an exposition in Berlin, at which the recent models and sketches for healthful, convenient, and graceful garments for women are to be exhibited and the latest suggestions in this line discussed. Prominent medical men and medical societies have been especially invited to give their attention to the subject. Despite the fact that most young German women during their turning exercises wear trouser suits that are extremely comfortable and certainly not ungraceful, the problem of easy hygienic garments for women, that shall not be dirt- and dampcatchers is no nearer solution than it is with us.

Of late female enthusiasm for the bicycle in Germany has made sad inroads on the hidebound conservatism of the older generation of German women. It really begins to look as though the new sport and exercise is going to do more to hinder some of the hideous sacrifices to beauty of form and grace that the bigoted worship of the goddess Fashion has so far demanded and obtained from her votaries than all the protests of medical men and common sense for centuries. Zola, in his latest book, "Paris," has one of his female characters express the opinion that the bicycle will lead to the doing away with skirts, especially the long and clinging garments that are such a hindrance to movement, are so dirty, such scavengers of what is vile and contagious upon the pavement and yet are certainly anything but ideally graceful. There is the added Zolaesque touch that the exposure of ankles and even calves on the street cannot be so dangerous as the exposure of breasts in decolleté dresses in the ballroom, but that, of course, may be a matter of the point of view.

In any case medical men cannot but welcome modifications of women's clothing that allow freer movement and bring with them freedom from abuses that have been the subject of medical protest for years. The results of the present exposition will be watched with interest by German medical men, for German women with ideas have a way of taking the bit in their teeth and overleaping barriers, and something practical may result.

SOCIETY PROCEEDINGS.

AMERICAN CLIMATOLOGICAL ASSOCIATION.

Fifteenth Annual Meeting, Held at the Maplewood Hotel, near Bethlehem, N. H., August 31 and September 1, 1898.

FIRST DAY—AUGUST 31ST.

BEFORE the reading of the President's address fitting tributes were paid to the memory of Dr. T. D. Bratton of Augusta, by Dr. Otis, of Dr. Harrison Allen of Philadelphia, by Dr. R. G. Curtin, and of Dr. William Pepper by Dr. J. H. Musser.

After welcoming the members of the Association the President, DR. E. O. OTIS of Boston, delivered an address on Avenbrugger and Laennec, the discoverers of percussion and auscultation. He thought it eminently proper that an association devoted largely to the consideration of diseases of the chest should honor the memory of these illustrious men by reviewing their lives and work. He gave an account of Avenbrugger's life and his great work on percussion. His life, modest like that of most great men, was spent in enthusiastic devotion to his profession and in love and service to his fellow men. His "Novum Inventum" was revived by Corrisart in 1808 by a French translation, with copious commentaries and its inestimable value shown.

The incident leading to Laennec's discovery of auscultation was given. The development of the discovery was traced and the making of the stethoscope. Laennec's whole life was absorbingly devoted to professional pursuits. He was absolutely true and unselfish in his professional aims. In the diagnosis of diseases of the chest he was universally acknowledged to be without a rival.

DR. FREDERICK I. KNIGHT of Boston read a paper on

SOME ERRORS OF GENERAL PRACTITIONERS IN DEALING WITH CASES OF PULMONARY TUBERCULOSIS.

He referred to certain common errors which he thought might be diminished if his remarks were endorsed by the members of the Association. The errors to which he especially called attention were:

1. Failure to make an early diagnosis, which is usually easy since the discovery of the tubercle bacillus.

2. Failure to admit the gravity of the situation the moment it is discovered, and to put the patient at once in the best possible condition for recovery. Niemeyer used to say that the danger of a consumptive patient was "that he became tubercular." In the light of modern pathology Dr. Knight would say that the danger of a tubercular patient is that he became consumptive, *i.e.*, subject to secondary infection. There is often failure to sufficiently impress the patient also with the gravity of the situation to secure his thorough cooperation in the effort for his recovery.

3. While temporizing, giving nauseating medicines, too much alcoholic stimulants and prescribing exercise, etc., which only hasten the decline.

4. Sending patients away from home who have only a few months or weeks to live, or who have not sufficient money to live properly away from home long enough to do them any good; also, exercising insufficient care in the selection of a residence for those who are suitable for change.

5. Insufficient professional supervision of patients, who always require constant watchfulness whether at home or at some climatic resort.

DR. VINCENT Y. BOWDITCH of Boston read a paper on

THE RESULT OF SOME RECENT EXPERIENCE WITH PHTHISICAL PATIENTS.

He said that in his examination of patients he had been frequently impressed with the fact that one or two of what he believed to be the most important features in diagnosis, or rather prognosis, had apparently been overlooked by the physician in attendance. Although ordinarily comparatively easy to make a diagnosis of pulmonary tubercular disease, in cases where dulness

upon percussion, changes in the respiratory murmur and even râles are lacking—cases in which the power of diagnosis and prognosis are taxed to the utmost—he had frequently found that the general practitioner had not paid sufficient attention to what he deemed the most important symptoms, the quality of the pulse, the temperature, and condition of the digestive organs. Post-mortem examinations had frequently shown that in patients with few physical signs in the chest, but with a weak, rapid pulse, more or less elevated temperature and poor condition of the stomach, there had been an almost universal dissemination of tubercle, without, perhaps, marked breaking down of tissue. These unfavorable conditions of the pulse, temperature, and digestive organs he believed entirely inconsistent with a truly *incipient* form of tubercular disease, even when the physical signs in the chest are few or entirely lacking.

He referred to and emphasized his observations in a previous publication "A Plea for Moderation in Our Statements Concerning the Contagiousness of Phthisis" (*Boston Med. and Surg. Jour.*, 1896). While appreciating fully the teachings of bacteriology, the importance of absolute cleanliness in connection with phthisical patients, and attention to the general health of those in attendance, he maintained that this care could be kindly and wisely given without causing a spirit of terrorism and without making such sweeping and unjustifiable statements as that "all homes for consumptives are a source of danger to the surrounding community."

He mentioned the statement of Flugge of Berlin (*Deutsch. Med. Wochenschrift*, October 15, 1897) regarding the possibility of bacilli being carried in small droplets of mouth fluid into the air during the act of coughing, and believed that we should wait for further proof before accepting this extreme theory.

The papers of Drs. Knight and Bowditch were discussed jointly. DR. DIDAMA referred to one of the errors mentioned by Dr. Knight of sending patients to Colorado and elsewhere who are too far advanced in consumption, and said it would seem that some physicians send them away to escape signing the death certificate. Yet there have been instances of patients who have had many hemorrhages being benefited by residence in Denver. He questioned whether when the disease is far advanced, and the patient nervous about his condition it is right to tell him frankly the absolute truth. Regarding the remedies, he said consumptive patients are expected to improve as the medicine is changed, or as they changed the doctor. Even within two or three days of their death there is an improvement in their symptoms. He was glad Dr. Bowditch had spoken of the too common feeling that consumptives are social lepers. He did not believe there is any particular danger in having a friend call who had a consumptive cough.

DR. WALKER of Philadelphia agreed heartily with the sentiments of both papers.

DR. R. G. CURTIN of Philadelphia was much pleased with Dr. Knight's remarks in regard to the old-fashioned treatment of tuberculosis. He agreed with the remarks of Dr. Didama that physicians are often to be blamed for sending patients away when they would be better at home, yet there are times when the advice is unheeded until the disease is too far advanced.

DR. J. H. MUSSER of Philadelphia thought it one of the most difficult things in medicine to decide which patients should be sent away, and which retained, and cited the case of a patient in whom general tubercular infection had apparently advanced to extreme weakness and emaciation, whom he had advised to go to the Adirondacks. His stay there under medical treatment had resulted in arrest of all manifestations of the disease.

DR. HART of Denver said that the papers of Drs. Knight and Bowditch expressed exactly what he had wanted to hear. He said too often patients arrive at Denver in about the condition in which they are finally sent home, with every indication of advanced tuberculosis, and that it is a very difficult thing for the physician at a health-resort to manage these patients.

DR. CHARLES E. QUIMBY of New York said that he had nothing to say personally, except that which Dr. Bowditch and Dr. Knight felt their kindness of heart prevented them from saying, and had requested him to say, that while their papers were directed to the general practitioner, they were intended for us all.

DR. COLEMAN, although having had but few cases illustrating points brought out in the papers under discussion, believed that the early appreciation of the tubercular lesion is the key to the cure and that where a proper physical examination is made many of the errors will be avoided. He had made it a rule of his life to make a thorough physical examination of all patients coming to him.

DR. BEVERLEY ROBINSON of New York said that while he agreed that a great many individuals are not examined accurately enough and the diagnosis not settled sufficiently soon nor proper and judicious treatment not followed up at all times as it should be at the time most favorable, he believed that with a better understanding of the disease, the better education of our medical colleges, this error will be much less frequently committed.

DR. KNIGHT said, in closing the discussion, that in the treatment of tuberculosis he thought the excessive use of syrups should be avoided as much as possible.

SECOND DAY—SEPTEMBER 1ST.

DR. JUDSON DALAND of Philadelphia read a paper, entitled

A CASE OF DISSECTING ANEURISM OF THE THORACIC AORTA RUPTURING INTO THE PERICARDIAL SAC AND CAUSING IMMEDIATE DEATH.

Dr. Daland said that the rarity and completeness of this lesion, the evidences of complete reparation of a similar lesion above the former one, and the extraordinary changes in the heart and aortic valves, together with the unusual mode of death led him to call attention to a case which he described in detail. The patient was a man thirty-eight years old, whose personal and family history was unimportant except that he used whisky moderately. He sought relief from edema of the legs, headache, and diarrhea. His symptoms improved under absolute rest,

eight ounces of buttermilk every two hours, and Basham's mixture. He gradually resumed a mixed diet and did not again seek medical aid for four years. During this interval he returned to the use of whisky, averaging two pints a day. Examination showed marked arteriocapillary fibrosis, and considerable increase of hypertrophy of the left heart with a faint systolic murmur. Two years previously he had suddenly experienced complete loss of muscular power without other symptoms. The urine presented a moderate amount of albumin and a few hyalin tube casts. Three months later he complained of excessive muscular weakness and fear of death, accompanied by headache and morning vomiting. In a few weeks he suddenly developed left hydrothorax with excessive frequency and irregularity of breathing, rapid and irregular heart action and cyanosis which were relieved by thoracentesis. Five years after the first examination ordinary evidences of cardiac failure showed themselves and he died suddenly in December of the same year apparently from cardiac failure. The diagnosis was marked arteriocapillary fibrosis, enormous left ventricular hypertrophy and dilatation, with mitral regurgitation and chronic interstitial nephritis alcoholica.

The autopsy showed one-half inch above a recent rupture of the aorta, a linear spot measuring one-half inch in length and parallel to the long diameter of the artery. It communicated directly with the pericardial sac and was the immediate cause of death. There was evidence that the dissecting aneurism extended for an unknown distance into the thoracic aorta.

DR. BEVERLEY ROBINSON of New York read a paper, entitled

CLINICAL NOTES ON ASTHMA AND ITS TREATMENT.

The essayist said that among the diseases which the practitioner is called upon to treat none is of greater interest than asthma. This interest is partly due to its etiologic obscurity. The cases of so-called nervous asthma in the speaker's experience have been infrequent, and he believed that when we are better informed examples of purely functional asthma will perhaps no longer be described. He believed that despite the existing nervous irritability the asthmatic attack would rarely occur were there not other discernible cause which more advanced researches will reveal. Conditions of the blood are often ignored. Malarial toxemia is frequently present and yet overlooked. It is wisdom to act in accord with its recognition. If there be a sudden chill followed by rise of temperature and sweating and if at the time of the chill and previous to the giving of quinin internally a skilful microscopic blood examination be made the plasmodium malariæ should be found. For an asthmatic attack of probable malarial causation he advised increasing doses of Fowler's solution of arsenic to its physiologic effect; if the bowels are constipated and liver inactive, Warburg's extract in 5-grain doses three or four times daily; if anemia be present, quinin, iron, and arsenic in a suitably formulated pill, the following being a favorite with the speaker: 1 grain of reduced iron, 2 grains of sulphate, or preferably the muriate of quinin, and $\frac{1}{60}$ to $\frac{1}{30}$ of a grain of arsenious acid, three times daily after meals. Of course, if the attack be severe, one should employ antispasmodic remedies, and also permit patients to smoke and inhale from a cigarette d'Espic, datura Tatula (Savoy and Moore), or of simple niter paper. As a last resort, the inhalation of a small quantity of chloroform or a hypodermic of morphin and atropin may become our only satisfactory help.

He was in accord with those who find in the constitutional conditions of gout and rheumatism an underlying influence of great power in causing nervous irritability and characteristic appearances of the throat, and where there is a clear history of these affections one may infer in many instances that the asthmatic attack is of similar origin.

As to the reflex causes of asthma, when one finds in the nose and throat morbid conditions one cannot be satisfied with the care of the patient unless operative interference be undertaken to modify or remove these evidences of disease. While this is true, it should be admitted that several prominent throat specialists have exaggerated the diseased conditions of throat and nose as causative in producing asthmatic attacks.

In chronic gastric catarrh, brought on by errors of diet, or alcoholic habits, frequently lavage of the stomach and a regulated regimen have afforded great relief in the asthmatic seizures. In the consideration of bronchitic cases of asthma with some development of emphysema one is confronted with questions clinically most difficult to decide. When the bronchitis is clearly defined and the secretion slight one's main effort should be to stimulate the latter by appropriate means, and here small repeated doses of ipecac, tartar emetic, grindelia robusta, chlorid of ammonia, and iodid of potassium are very useful. Where the bronchitis is also evident and yet there is much bronchial secretion, belladonna or atropin must be combined in small or moderate doses with the drugs previously named, or should be given with a little camphor and quinin in capsule or tablet form, or what is often preferable, alone, until their physiologic effect is manifest. When the emphysema and bronchitis are clearly defined, and when the asthma is also pronounced, one must have recourse for temporary results to inhalation of the fumes of the antispasmodic cigarettes, the repeated use of oxygen gas, or the administration of Hoffman's anodyne, alcohol, hot coffee, capsules of ether, or chloroform.

Where in connection with the previous conditions there is evident cardiac distention one must have recourse to nitroglycerin or the nitrites, or to a soluble salt of caffein (salicylate), either by the mouth, or hypodermically. Occasionally blood-letting, by bleeding from the arm, or the use of leeches, or wet cups to the chest or epigastrium will afford more or less lasting relief.

The question of change of locality is one difficult to solve. Personally, the speaker was inclined to believe, after considerable experience, that the climatic conditions which shall prove best for subacute or chronic bronchitis are also those best suited to the bronchitis when complicated with asthma.

DR. A. JACOBI of New York read a paper on

ERGOT IN CHRONIC MALARIA,

which will appear in a later issue of the MEDICAL NEWS.

A paper by Dr. R. C. Newton of Montclair, entitled "A Preliminary Report on Sixty-five Cases of Malarial Fever in Relation to Their Contiguity to Certain Brooks," was read by title. A paper by Dr. J. C. Wilson of Philadelphia, entitled "The Natural History of Pulmonary Tuberculosis," was read by title. Papers by Drs. Theobald Smith of Boston and J. C. Mulhall of St. Louis were also read by title. The paper by Dr. Andrew H. Smith of New York on "Oxygen Inhalations in Acute Pulmonary Affections," will appear in a later issue of the MEDICAL NEWS.

DR. J. M. ANDERS of Philadelphia presented a paper on

SANATORIA FOR THE CONSUMPTIVE POOR,

showing the extent and urgency of the needs presented by the large class of phthisic patients, and the value of special hospitals and sanatoria for their treatment, and discussed the discrimination of the cases among the lower class into three groups, and the remedy for each. He stated that statistics prove pulmonary tuberculosis to be proportionately far more common and inauspicious among the lower than among the higher classes, and that the almost absolute lack of proper facilities for the poor afflicted with pulmonary tuberculosis is a most potent factor in maintaining the large death-rate. He believed special hospitals to be superior to separate wards in general hospitals for the treatment of cases of pulmonary phthisis, and quoted a reduction of fifty per cent. in the mortality-figures when special hospitals are used for the disease. He believed sanatoria near large cities to be even better than the special hospitals in densely populated centers, and climatic sanatoria, in the earlier stages of the disease, have showed results surpassing those of all other known methods of treatment.

For patients hopelessly afflicted he advocated every comfort, such as could be furnished by special hospitals in healthful urban localities. For the incipient cases among the pauper element sanatoria located in close proximity to large municipalities, with special reference to purity of atmosphere and with protection by natural elevations or woodland from chilly blasts, should be provided. Patients with phthisis pulmonalis among the middle and working-class, or those having small means, would be compelled to depend principally upon private philanthropy and probably semi-State institutions. He approved of the combined sanatorium and climatic treatment and believed it could be made almost self-supporting.

DR. E. R. BALDWIN of Saranac Lake, N. Y., read a paper on

INFECTION FROM THE HANDS IN PHTHISIS.

The paper described the results of an examination of the hands of twenty-eight patients by washing their fingers in a sterilized, weakly alkalin solution. Inoculation of the washings into guinea-pigs was successful in producing tuberculosis from ten out of fifteen patients, mostly in advanced stages of the disease, and many of whom expectorated into handkerchiefs. Out of twenty-four cases in which the centrifugated washings were examined microscopically for bacilli, six were positive. The author regards the danger of infection from the hands as small unless it shall be shown that the disease is more frequently acquired through the mouth, but urges more general use of cheap, destructible handkerchiefs, and frequent ablution when cuspidors are impracticable.

DR. FRANCIS H. WILLIAMS of Boston read a paper, entitled

APPLICATION OF THE X-RAYS IN THE DIAGNOSIS OF TUBERCULOSIS.

The paper presented a general statement of the medical applications of the X-rays. One of its most useful applications is for diseases in or contiguous to the thoracic cavity, and in that connection the speaker considered the subject. Diagrams were shown which were made by transferring outlines which the author had drawn on the skin of patients while looking through the fluoroscope, to a skeleton outline copied from one of Luscka's plates. The position of the diaphragm and heart were shown as in full inspiration, and the position in expiration. In health it is seen that the diaphragm has a wide excursion between the extremes of respiration, and that the heart also changes its place. The difference in the brightness of the lung area between expiration and full inspiration may be perceived by means of the fluoroscope. This shows how conditions involving congestion, as in early tuberculosis or in some form of cardiac disease, may alter the appearances in the fluoroscope. The diagram of health was used as a key to the others and comparisons made with it and the diagrams of the various diseases. Thoracic aneurisms may now be always recognized with certainty. Further symptoms due to aneurism are sometimes ascribed to other diseases and an X-ray examination is required to establish the diagnosis.

Diagrams were exhibited showing the excursions of the diaphragm, the position of the heart, and the appearances in emphysema, pleurisy, pneumonia, pulmonary tuberculosis, pneumohydrothorax, and pneumothorax. As the X-ray examinations in pulmonary tuberculosis come more into use the speaker was convinced that the presence of the disease will be recognized earlier. A number of cases were cited, chosen to illustrate some of the ways in which X-ray examinations might be useful in pulmonary tuberculosis.

DR. E. FLETCHER INGALS of Chicago presented a paper on

THE VALUE OF SYSTEMATIC PHYSICAL TRAINING IN THE PREVENTION AND CURE OF PULMONARY DISEASE.

In considering this subject he called attention to the fact that one of the most common observations made by medical men is that the long, narrow, flat-chested person is the one most liable to the development of tuberculosis, and that in persons presenting this form of chest the chances for recovery are reduced to a minimum. He thought the observance of systematic physical training in aiding to develop the respiratory muscles, thoracic walls, and pulmonary capacity would be of much service in pre-

venting tuberculosis and also in curing it in its early stages. Since collapsed air-cells furnish a most favorable nidus for the development of tuberculosis, he urged that measures should be adopted to expand the lungs and speedily bring the air-cells into the best possible working condition. He believed it probable that the lungs are rendered more susceptible to the tubercle bacilli and their toxins by an early tubercular localized anemia which diminishes the nutrition. Of the eighty per cent. of the human family said to be affected by tuberculosis the majority recover, and the mortality is not more than twelve per cent. If, as has been stated, the presence of the disease had only been found at autopsy, after death from other causes, and in those who had recovered it had made but little progress, he thought it a duty to recommend measures which would strengthen the resisting power of the lungs. As a means of prophylaxis his first measure would be to instruct the patient in deep breathing. He attached the greatest importance to careful physical training, believing that the long, narrow, flat chest might be materially improved in form and circumference, and Nature given a greater chance to throw up barriers against the disease.

DR. IRWIN H. HANCE of Lakewood, N. J., presented a paper on

A SINGLE TEST OF THE VIRULENCY OF SPUTUM KEPT MANY MONTHS.

He referred to the virulency of the tubercle bacilli as demonstrated by the clinical pictures of pulmonary tuberculosis and the resistance of these germs against development. He reported the experiment of Stone, in 1891, in which the tubercle bacilli retained their form and virulency for three years. Similar experiments made by himself were described with results so different as to justify the conclusion that the tubercle bacilli were no longer viable, and the following queries were presented: Whether sputum which remains in a liquid state for a long time develops toxins inimical to the life of the tubercle bacilli? Whether the result would not have been different had the sputum been more virulent in its character, and taken from a case of acute, active tuberculosis? Whether if sputum dries more rapidly does it retain its virulency longer? All such queries he believed could only be answered by further experimental work.

DR. J. E. STUBBERT of Liberty, N. Y., read a paper, entitled

SOME STATISTICS UPON SEROTHERAPY IN TUBERCULOSIS,

giving a short history of experiments in antitubercle serums with the theory of its action and the methods of preparation. The action of the tubercle serum is indirect rather than germicidal. Partial immunity has been secured by de Schweinitz in guinea-pigs. The serum developed in horses has been found more effective than that from other animals. The amount of clinical material furnished he believes insufficient to justify evidence in the good results claimed for different serums. The serum manufactured by the United States Government under de Schweinitz is his preference, and the following results are given of 82 patients treated by this serum: Expectoration decreased in 82 per cent., appetite improved in 81 per cent., weight gained in 78 per cent., physical signs improved in 82 per cent., temperature decreased in 49 per cent., bacilli disappeared in 13 per cent., apparent immunity established in 21 per cent., bacilli decreased in 35 per cent., cough decreased in 79 per cent., generally improved in 85 per cent.

The use of the serum is indicated only in incipient cases, although temporary reduction of temperature has been obtained in advanced cases in a few instances. He has used the antistreptococcic serum to reduce cases of mixed infection to those of simple, that the action of the antitubercle serum might act more freely. His experience in this, however, has been insufficient for definite conclusions. No danger attends the injections. The advantages claimed are absence of interference with digestion; in cases in which the bacilli have disappeared they have done so while the sputa was still present; no report of relapses even in patients returned to their former environments.

The writer is not a thorough advocate of serotherapy, adhering still to climatic, hygienic, and dietetic treatment in all cases, but believes that sufficiently good results have been obtained to justify further research in this direction, better pursued in sanatoriums.

DR. HENRY P. LOOMIS of New York read a paper on

THE PRETUBERCULAR STAGE OF PHTHISIS, OR THE CONDITION WHICH ANTEDATES TUBERCULAR DEVELOPMENT, AND SOME AIDS TO ITS DIAGNOSIS,

claiming that there is a condition precedent to the initial development of tuberculosis which should be called the pretubercular stage. The signs are to be looked for in the corpulence of the individual, in the chest conformation and vital capacity, in the constitutional condition, and in the character of the pulse. It is possible in many cases, especially in chloro-anemics, to diagnose phthisis before the appearance of physical signs or the tubercle bacilli in the sputum. Weight, respiratory capacity, and chest measurement have no value in establishing the possibilities of the development of phthisis in themselves but must be considered in relation to the height of the person, when they furnish three important aids to diagnosis. Corpulence is obtained by dividing the weight by the height expressed in feet. Normally in a man it should be 26; in a woman, 23. Chloro-anemia and persistent and unexplained disturbances of the digestive system are symptoms of the pretubercular stage. There are two characteristics of the pulse found in the pretubercular stage and early stage of phthisis: (*a*) change of position has practically no influence on its rhythm; (*b*) relative feebleness of arterial pressure.

DR. CHARLES E. QUIMBY of New York read a paper, entitled

A PLEA FOR MORE ACCURATE METHODS OF RECORDING THE RESULTS OF PHYSICAL DIAGNOSIS OF THE LUNGS.

He said that this latter half of the Nineteenth Century has come to be known, no less in medicine than in other

branches of science, as the age of progression. We as physicians may rejoice with peculiar satisfaction that in medicine the change has not been solely one of technic and application but that in many lines at least we have started upon a strictly scientific basis. While surgery may perhaps present to the layman the most abstrusively attractive illustrations of exactitude in methods and results, the more critical and closely analytical professional mind must admit that the broadest and most potentially valuable advances in medical science of our own time have been in the domain of medicine. The very word, physical diagnosis, presupposes definiteness and certainty, claiming as it does for a basis the best developed of limited sciences.

The purpose of the paper was to outline some modest attempts at recrystallization and to urge the adoption of a scientifically accurate method of recording the results of physical examinations of the lungs. That it is possible to make such a record, and in such manner as will render it a direct index to the amount of disease and a standard for future reference, he was fully convinced. Complete physical record of respiration at any given point comprises: (1) the pitch note of the trachea; (2) that of inspiration and expiration, and (3) the relative length of these two sounds expressed as a fraction. For example, respiration at point *a*, left chest; tracheal note *g*; inspiration, *f*, above; expiration, *e*, between; rhythm, ¾.

It is understood that the foregoing statements refer solely to respiratory sounds as affected by uniform changes in the chest and exclude localized excavations, although the same principles may be applied to these conditions. Thus respiratory with percussion sounds afford an absolutely scientific, accurate record of pulmonary conditions and changes. It were superfluous to dilate upon the value of such records in cases remaining under our own supervision or for such as we desire to send to other climates and places in the care of other physicians.

THE DISTRIBUTION OF PULMONARY TUBERCULOSIS IN NEW JERSEY

was the title of a paper by DR. GUY HINSDALE of Philadelphia, who exhibited a map on which the various regions of the State were platted so as to show the different degrees of prevalence of the disease. He said that the distribution of tuberculosis in this State corresponds in great measure with well-known facts relating to the disease. Contrasted with New York and Pennsylvania New Jersey does not show such wide variations. In the former State there are counties in which the disease is three or four times as rare as in the same densely populated districts. In New Jersey the counties in which the larger cities are situated show a prevalence only twice as great as in the sparsely settled regions. Hudson, Essex, and Mercer counties, in which are situated Jersey City, Newark, and Trenton, have from four to five hundred persons living to one death from phthisis, while Sussex, Warren, Hunterdon, and Gloucester counties, have between eight and nine hundred persons living to one annual death from phthisis. The remaining counties were platted to show the three intermediate grades. Elevation above tide does not play a part as it apparently does so plainly in the case of Pennsylvania. In New Jersey on the other hand, one of the counties, Gloucester, in South Jersey, is quite low, but it belongs to the group in which tuberculosis is least prevalent. It is, at least, one of the three counties in which the disease is prevalent. In the northern and northwest part of New Jersey the surface is more diversified, reaching elevations of about 2000 feet. The soil in the northwestern half of New Jersey is largely red clay with out-croppings of sandstone, and in the northeastern portions trap rock. In Essex County there are positive evidences of a great prehistoric lake, called Lake Passaic. Its southern portion is the present site of a great swamp. The soil of the southern half is principally sand which in places like Lakewood reaches to a depth of six or seven hundred feet. But the character of the soil would seen to have little if any influence in the present instance in modifying the presence and distribution of tuberculosis. It is density of population which bears the closest relation to the distribution of tuberculosis in New Jersey. A diagram was shown in which this relation was characteristically represented. The counties which have less than one acre to each inhabitant have a high death-rate from tuberculosis, while Atlantic, Sussex, and Cape May Counties, which have from ten to twenty-two acres per inhabitant, have a low death-rate. Three of these are maritime counties. Sussex has the lowest death-rate of the four, and of all of the counties in New Jersey it is farthest from the sea and embraces the highest land in the State. It adjoins Pike County in Pennsylvania, one of the wildest and most heathful in that State.

The following officers were elected for the ensuing year: President, Beverley Robinson of New York; vice-presidents, James A. Hart of Colorado Springs and R. C. Newton of Montclair, N. J.; secretary and treasurer, Guy Hinsdale of Philadelphia; Council, Isaac Hull Platt of Lakewood, N. J.; S. C. Solly of Colorado Springs; James B. Walker of Philadelphia; E. Fletcher Ingalls of Chicago, and E. O. Otis of Boston. Delegates to the Executive Committee of the Congress of American Physicians and Surgeons, F. I. Knight of Boston; alternate, Roland G. Curtin of Philadelphia.

The following were elected to active membership: Howard S. Anders of Philadelphia; Edward L. Baldwin of Saranac Lake; S. Westray Battle of Asheville; D. R. Brower of Chicago; L. D. Bulkley of New York; W. E. Casselberry of Chicago; Walter F. Chappell of New York; R. A. Cleemann of Philadelphia; E. C. Dudley of Chicago; Albert C. Getchell of Worcester, Mass.; Alexander Lambert of New York; Samuel K. Merrick of Baltimore; J. E. Stubbert of Liberty, N. Y.; James Tyson of Philadelphia; Herbert Whitney of Denver; Harold Williams of Boston; F. H. Williams of Boston. To corrresponding membership: G. G. Eyre of Claremont, Cape Town; Samuel Gache of Buenos Ayres; Eduardo Licéaga of Mexico; Domingo Orvañanos of Mexico; Carl Ruedi of Arosa, Switzerland; Septimus Sunderland of London; Clement L. Wragge of Brisbane, Australia.

The Association adjourned to meet in New York City in May, 1899.

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXXIII. NEW YORK, SATURDAY, SEPTEMBER 17, 1898. NO. 12.

ORIGINAL ARTICLES.

THE USE OF THYROID.[1]

BY WILLIAM E. MOSELEY, M.D.,
OF BALTIMORE, MD.

AFTER hearing the very favorable report upon the use of thyroid in cases of bleeding fibroid, made by Dr. Polk in a paper read before the Baltimore Gynecological and Obstetrical Society last October, I determined to put all suitable patients who came under my care upon a like treatment and note the results. Believing that a study of the physiologic action of the drug would be of interest to this Society I requested Dr. E. L. Whitney, Lecturer on Clinical Pathology in the Baltimore Medical College, to make some investigations for me. This he kindly did, and I take great pleasure in presenting the report of his results as a part of this paper.

The cases which I have had under observation are only five in number and are as follows:

CASE I.—Mrs. C. S., aged forty-seven years, entered the Maryland General Hospital January 5, 1898. Her mother died of tuberculosis; otherwise her family history was negative, as was also the patient's early history. Menstruation began at twelve years, regular every four weeks, very free and accompanied by considerable pain until after the birth of her first and only child, which was born twenty-three years ago. Between 1880 and 1898 she suffered from a number of severe hemorrhages, which occurred independent of the menstrual period. During the past year menstruation has been irregular but excessive in amount.

Her uterus was found to be pretty regularly enlarged, the probe entering to a distance of seven inches. The endometrium bled freely on the touch of the probe. I curetted this uterus for the sake of having the endometrium examined microscopically, and put the patient on thyroid, 1 grain after each meal, to be increased 1 grain daily until 15 grains daily were taken. The pathologist's diagnosis from the scrapings was glandular hypertrophy with edema and congestion.

Since the operation the flow has been much reduced in amount and when the patient was last seen it was perfectly normal. The woman left the hospital on February 9th and was directed to continue the thyroid in doses of 9 grains daily. There have been no heart, kidney, or stomach symptoms.

CASE II.—H. M., female, aged thirty-three years, single, colored, entered the Maryland General Hospital January 5, 1898. One child born fifteen years ago, natural labor. No abortions. Family and early personal history negative. Menstruation began at seventeen, regular, lasting four or five days, no marked pain. During the preceding three months she had had a very free flow every two or three weeks and lasting eight or ten days, accompanied by severe pain. In November she had a profuse flow lasting two weeks, and was much debilitated on account of loss of blood.

Examination showed the uterus to be decidedly enlarged by intramural fibroids, but no measurements were taken. The patient was put upon thyroid, 3 grains daily, to be increased 1 grain each day until 15 grains daily were taken. She left the hospital February 16th and was directed to take 9 grains of thyroid daily and report every two weeks. There have been no heart, kidney, or stomach symptoms. The menstrual flow has been regular and normal, and the patient has improved much in general health.

CASE III.—E. C., female, single, white, aged fifty years, entered the Maryland General Hospital November 2, 1897. Family and early personal history negative. Menstrual flow free but fairly normal until five years ago, since which time the flow had been very excessive and accompanied by considerable pain in the pelvis and back. There had also been a free intermenstrual glairy leucorrhea. The patient's condition was one of extreme anemia, the mucous membranes appearing practically bloodless. The lungs were negative. There was a loud blowing systolic murmur, loudest over the base of the heart, and a loud bruit in both sides of the neck and also in the lower portion of the aorta. The uterus was symmetrically enlarged, forming a smooth, rather elastic tumor, 21 cm. between perpendiculars in its transverse and vertical diameters. The patient was ordered thyroid, 3 grains daily, to be increased 1 grain each day until 15 grains daily were taken. She was also ordered arsenic and reduced iron.

On December 14th the tumor measured 18 cm. in its transverse and 19 cm. in its vertical diameter. The patient had taken on flesh. There was a decided return of color to the mucous membranes and marked improvement in strength and in heart symptoms. The thyroid was continued in doses of 15 grains daily until February 11th, when the patient left the hospital, being directed to take 9 grains of the drug daily and to report from time to time. On May 18th I measured the tumor and found it 14 cm. in transverse, and 16 cm. in vertical diameter, a diminution of 7 and 5 cm. respectively. The bruit had entirely disappeared from the carotid arteries and there was but a slight soft murmur transmitted through the tumor from the aorta.

[1] Read at the Twenty-third Annual Meeting of the American Gynecological Society, held at Boston, May 24, 25, and 26, 1898.

The thyroid at no time caused any disturbance of the heart, kidneys, or stomach, and after beginning the use of the drug, the menstrual flow was excessive on only one occasion, and for the past few months has been very slight in amount.

Case IV.—Mrs. H. E. C., white, aged forty-six years, first entered my private hospital four years ago. Her family and early personal history were negative. Menstruation had been normal to within three years. Since 1891 the patient without any known cause had suffered from very severe menorrhagia, the flow lasting upward of two weeks out of every four. This condition had been ascribed to "change of life" and had been practically neglected by her family physician. On examination I made out nothing more than a moderate enlargement of the uterus and an endometrium that bled profusely on the introduction of a probe. I curetted the uterus thoroughly and put her upon tonics. For about three months there was relief from the menorrhagia, but later the flow became as free and as persistent as ever.

Two years ago she again came to me and I curetted her a second time, and during the operation made out a small fibroid in the anterior wall of the uterus. The scrapings from both of these operations were examined microscopically and pronounced perfectly benign. Last January she came to me a third time. Although her general health was better than it had been for several years and her extreme anemia had disappeared to a considerable extent, probably owing to persistent tonic treatment, she was still losing a large amount of blood at each period, the flow lasting between one and two weeks, forcing her to keep her bed. I put her on thyroid, beginning with 3 grains daily and increasing 1 grain daily. The drug in her case was not well borne. As soon as she went beyond 6 grains a day her ankles and legs would swell, albumin would appear in her urine, her heart action would become rapid and irregular, and her appetite would disappear. A discontinuance of the drug for a few days would bring about a return to a normal condition. While the thyroid was being used in 4- to 6-grain doses daily, the excessive bleeding was held in check and the patient's general health and strength improved. She was under observation six weeks, and since her return home has in an irregular manner continued the use of a small amount of the drug, with the result that the excessive flow has been held fairly well in check.

Case V.—Mrs. R. W., white, aged thirty-five years, widow, no children. In January, 1895, I opened her abdomen on account of enlarged tubes, the result of a prolonged inflammatory condition. I found the intestines agglutinated together and the pelvic cavity completely walled off by lymph. As she took the anesthetic very badly, I simply washed out the abdomen and closed the incision. She did perfectly well and during the following few months gained sixty pounds in weight. During the latter part of 1897, however, she complained of discomfort in the left iliac region together with rather excessive menstrual flow.

She entered my private hospital on November 9th, there being present a very excessive menstrual discharge. On November 15th examination under ether showed an elastic enlargement in the line of the left tube, and after curetting her thoroughly I drained the tube through the vagina, the fluid apparently being a bloody serum. At this operation I made out a fibroid thickening in the upper portion of the left side of the uterus. The scrapings were reported benign. The two succeeding menstrual flows were excessive in amount and I ordered thyroid to be taken as in the preceding cases. This patient could take 6 grains daily for a limited time without bad results, but even that quantity if persisted in caused loss of appetite and marked dyspeptic symptoms, together with a very rapid and irregular action of the heart, and she had to limit herself to 4 grains daily. This, however, was sufficient to keep the excessive loss of blood in check. The menstrual flow became normal in amount and character and has so remained.

From these five cases I came to the following conclusions: (1) That, whereas some patients can take comparatively large doses of thyroid with impunity, others are injuriously affected by small amounts, and that, in using it, one should begin with a minimum dose, say 3 grains daily, increasing the amount very slowly and watching its effect upon the heart and kidneys carefully; (2) that in cases of bleeding fibroids, thyroid has a very marked influence in checking the excessive loss of blood, and that in certain cases at least its use is followed by a diminution in the size of the growth; (3) that its use, in doses appropriate to the individual, is followed by improvement in the general health, this being probably due to the cessation of excessive loss of blood.

Dr. Whitney's report is as follows:

By our present methods of blood examination it is impossible to demonstrate any alteration in the blood which will explain the changes taking place in the organism under the influence of thyroid. The only change, as the analyses show, which can be demonstrated is a moderate increase in the percentage of small mononuclear cells with a corresponding decrease in the percentage of polymorphonuclear neutrophiles. There might be, it is true, an increase in the oxidation equivalent of the blood or an increase in the volume of blood, but neither can be determined by any of our methods with any degree of exactness. In the cases where an apparent anemia is cured by the action of thyroid, the action may be better explained by considering the cure as simply the result of a local action upon some physical condition underlying the anemia (Case I.). In Case II., the patient suffering from mental trouble could not be induced to eat or exercise. Under thyroid the mental and physical conditions both improved. As

a consequence the blood condition also improved. In Case III. the condition was one of intense anemia from bleeding fibroids. Under treatment with thyroid, the bleeding ceased, necessarily the condition of the blood improved, as it probably would have done under any other treatment which would have stopped the hemorrhage, making the blood secondary to the change in the fibroid. (See Case II., of Dr. Richardson's blood-count.)

Now with regard to its effects upon metabolism. All the cases which I have studied during the past two years, some superficially, others carefully, show a considerable decrease in the amount of nitrogen and salts eliminated in the urine. This fact, taken in connection with the undoubted decrease in weight in persons suffering from obesity, renders it positive that the decrease in weight must be due to the increase in the metabolism of fats in the body. Carbohydrates are stored up in the body in only moderate amounts at any time, the increase in weight being due to an increase in the amount of fats (hydrocarbons) in the body. This narrows the increase in metabolism to an increase in the metabolism of fats. Now by oxidation of fats the products formed are CO_2 and H_2O, both of them eliminated principally by the lungs, and both difficult to estimate except by very elaborate apparatus. Whatever histologic connection there may be between myofibromata of the uterus and connective-tissue cells of areolar and adipose tissue I must leave to the histologist and gynecologist to discover. I think the relation must be nearer than is commonly supposed.

The following reports of the blood examination in Cases I. and II. were furnished me by Dr. Richardson of Mount Hope, and I am sure they are correct. The results agree in the main with those I have previously obtained and with statements contained in the literature on the subject of thyroid medication:

CASE I.

Before treatment:
- Erythrocytes 4,528,000
- Leucocytes 8500

Differential count:
- Small mononuclear ..... 17.6 per cent.
- Large " ..... 8.4 "
- Eosinophiles ..... 1.8 "
- Multinuclear ..... 72.2 "

Specific Gravity 1053
Hemoglobin ..... 75 per cent.
No basophilic perinuclear granules observed with dahlia.

After one week's treatment, patient taking 5 grains three times daily:
- Erythrocytes 4,835,000
- Leucocytes 8000

Differential count:
- Small mononuclear ..... 27.9 per cent.
- Large " ..... 9.6 "
- Eosinophiles ..... 1.2 "
- Multinuclear ..... 62.3 "

Specific Gravity 1053
Hemoglobin ..... 75 per cent.
No basophilic perinuclear granules with dahlia.

CASE II.

Before treatment:
- Erythrocytes 3,648,000
- Leucocytes 9400

Differential count:
- Small mononuclear ..... 10.0 per cent.
- Large " ..... 6.8 "
- Eosinophiles ..... 1.0 "
- Polynuclear ..... 81.2 "

Specific Gravity 1045
Hemoglobin ..... 45 per cent.
Perinuclear basophilic granules ..... 0.5 "

After three-weeks' treatment, patient taking 2½ grains three times daily:
- Erythrocytes 4,320,000
- Leucocytes 8000

Differential count:
- Small mononuclear ..... 21.2 per cent.
- Large " ..... 7.4 "
- Eosinophiles ..... 2.1 "
- Polynuclear ..... 69.3 "

Specific Gravity 1054
Hemoglobin ..... 78 per cent.
Perinuclear basophilic granules ..... 0.15 "

From published reports in connection with typhoid treatment it has been found that changes occur in blood as follows: (1) a slight increase in the number of mononuclear-cells; (2) a corresponding decrease in the percentage of the polymorphonuclear neutrophiles; (3) an increase in the oxygenating power of the blood.

The urine shows, in general terms: (1) a decrease in the amount of nitrogen eliminated; (2) a decrease in all nitrogenous constituents; (3) a decrease in the amount of mineral matters; (4) albuminuria if too large doses are used.

Bodily conditions. In obesity: (1) a decrease in weight; (2) no corresponding decrease in strength; (3) taken in connection with urinary analysis it indicates that the increase in metabolism must fall on hydrocarbons and carbohydrates, the increased metabolism and change of which acts as a saving principle to the proteids of the body.

From Berlin, where Dr. Whitney at present is working with Professor Thierfelder, he writes as follows regarding thyroid:

"In accordance with my promise, I have been trying to look up the thyroid treatment and its effects more thoroughly, but so far have been unable to find any satisfactory report of its results. The effects upon metabolism may be briefly stated as follows: (1) Upon the nitrogenous metabolism and elimination its influence is stated by some to remain normal; by others, including Chittenden, the elimination is stated to be slightly but uniformly increased, the diet remaining the same. Those observers who have found the daily elimination of nitrogen the same or decreased have possibly failed to

take into account the injurious effect of large doses of thyroid upon the appetite and digestion, with consequent decrease in the amount of food (and nitrogen) ingested. The increase in the amount of nitrogen eliminated remains, however, always slight. (2) The effect upon general metabolism is shown by the decrease in weight which follows the prolonged administration of thyroid, especially if in excessive doses. As there is not a corresponding increase in the amount of nitrogen eliminated, this loss must come chiefly from the non-nitrogenous elements of the body, that is, fats or the carbohydrates. This is apparently proven in the following ways: (*a*) There is a marked increase in the amount of CO_2 eliminated by the body, showing increased oxidation of the carbonaceous materials of the body. (*b*) The loss of weight is most pronounced in those suffering from obesity, leading to its use as an 'anti-fat' remedy. (*c*) In mild cases of diabetes mellitus the sugar may be made to diminish or disappear entirely under the use of thyroid. These effects may be explained by one or both of the following hypotheses: (1) It may exert a specific stimulating effect upon the areolar tissues of which adipose tissue forms only a modification, due to the deposition of fats. (2) It may increase oxidation by increasing the oxidizing power of the blood. Its demonstrable effects upon the blood are limited, usually showing a slight increase in the number of mononuclear leucocytes, other changes in the blood, found at times, being explicable by changes in the organism, the alteration in blood constitution being secondary, as for example, the increase in hemoglobin and red corpuscles after administration of thyroid in bleeding fibroids.

"The explanation of its action upon fibroids must be hypothetical only. Analyses of dried fibroids show them to contain about fifteen per cent. of nitrogen (average) and only 1.5 per cent. of fats (matter soluble in boiling ether). Its action may be that stated above, that is, stimulation of the tissue composing the fibroid with resultant absorption, or by an increase in the oxidizing power of the blood, with absorption of the fibroid as a secondary effect."

SACROILIAC DISEASE (TUBERCULAR).

By L. L. McARTHUR, M.D.,
of Chicago.

Since the mechanism of joint and bone infections has been cleared up by the experimental work of the bacteriologist and pathologist, there remains but little divergence of opinion as to the possibility of invasion of any of the body-joints by infective elements, the frequency of invasion being almost directly proportional to the activities of, and forces acting on, the given joint. Omitting direct macroscopic infective embolism, it has become almost a surgical axiom that there must be two etiologic factors in the induction of a joint inflammation: first, the infective elements, such as pus-microbes, gonococcus, tubercle, rheumatism, staphylococcus, *et id genus omne*, and, second, trauma. By trauma we are to understand not merely direct or indirect violence alone (though this is one of the most frequent forms), but likewise cold, wet, excessive use, pressure, and even chemical irritations, which may determine the localization at any one point of the infective elements.

How? It should now be well known and remembered (1) that when bacteria in moderate number gain access to the circulation, whether artificially or by disease, they are immediately captured, enveloped, swallowed by the leucocytes, except when present in overwhelming numbers, and carried to the liver, spleen, and other emunctory organs, where they are slowly disintegrated, the products of the disintegration being stored up in such large quantities as often to multiply many times the size of these organs. (2) That this fact is true of the leucocyte; while the leucocyte remains in the blood-vessels it is not killed by such ingestion of micro-organisms. (3) That *ubi irritatio ibi fluxus* is as true of the white as well as the red blood-corpuscle. (4) Should this irritation or trauma occur to an organism, some of whose leucocytes chanced to be charged with pathogenic bacteria, the determination of leucocytes to the irritated part, some laden with bacteria, follows with certainty. (5) Let the leucocyte, so handicapped, however, wander out from the blood current, and it dies through the lack of the protective antitoxin in the flowing blood streams; immediately the contained bacteria begin to reproduce, the inflammatory war is on, more leucocytes called by their chemotactic sense of present toxins, more deaths through lack of protective serum, more exudate. This, true in the case of pus-microbes, holds similarly true with our other common pathogenic organisms.

With this understanding of the mechanism of infection of a joint, we can easily conceive how processes so common in the great joints of the body, exposed as they are to so many forms of trauma, may with diminished frequency occur in those less exposed, less mobile, less vascular articulations or semi-joints, the sacroiliacs. We are all familiar with the class-room experiment of injecting into the jugular circulation of one or two dogs staphylococcus cultures, and then fracturing the femur in each or bruising the knee. The one with the pus-microbes will, with unerring certainty, have a localized sup-

puration, the other not. Schüller has done the same with tubercle bacilli.

Since it is the specific organism which determines the infection, and the trauma the localization, it is as conceivable that we may have a tubercular, suppurative, gonorrheal, rheumatic or puerperal infection of the joints in question as well as those of other parts of the body, the relative frequency being determined by the active or passive parts played in the motions of the body. While it is true that these joints differ somewhat anatomically from the others, the better anatomists agree as to the presence of (1) a synovial membrane, (2) a capsular ligament, (3) cartilage, (4) ligaments, and (5) a smooth articular surface. We are not surprised, therefore, to find in the literature cases described as belonging to each of the quoted types of disease affecting this joint, as they do the other body articulations. I have made this digression for the purpose of showing the fallacy of the position taken by some, that on anatomical grounds those inflammations, whose localization depends upon the existence of a synovial membrane, cannot occur here: namely, gonorrheal, rheumatic, syphilitic, or puerperal; secondly, because others may never have seen any.

My aim in selecting this subject for our discussion has not been to present to you a classical *résumé*; this has already been accomplished in a masterly way by Van Hook, who reviews the entire literature to 1889 with fifty-eight well-recorded cases and adds one by himself, but to present what practical points I have gleaned from personal experience with five advanced and a sixth possibly incipient case (all tubercular), as well as to recall your attention to a disease which must be thought of in making a diagnosis in every suspected hip-joint disease, sciatica or low-lying Pott's, and which, once seen, will probably remain indelibly fixed in the memory.

When the bones constituting this joint are examined the smooth auricular surface of the ilium attracts attention, and the roughened larger area for the attachment of the strongest ligament in the body. The pelvis being held in the position it occupies when erect shows that the anterior is really, in life, the inferior surface, and the converse for the posterior. The proximity of the first, second, and third sacral nerves of the sacral canal, the internal iliac vessels, and the rectum in front once recalled will make clear many of the symptoms, render plain the sequelæ, and suggest the surgical treatment. Occurring in all periods of life, Velpeau shows that 37½ per cent. occur between 20 and 25 years, 22 per cent. below 15 years, and before 5 and after 60 very rarely.

Symptoms.—Chauvel believes cavalry officers most frequently affected. Males much oftener than females. Erichsen, from a clinical study, considers the chief symptoms as (1) pain, (2) lameness, (3) changed attitude and length, (4) tumefaction, and (5) abscess.

Pain.—Consider the joint, its functions, its relations, and it is easily understood that pain will be an early, persistent, and prominent symptom. Like any other joint, pain will be in the immediate neighborhood, in lower lumbar regions, in buttocks; and, since the sacral nerves, the obturator, genitocrural, and the anterior crural nerves pass in close relation to the joints anteriorly, any irritation to their trunks will be referred to their terminal distribution; hence, the anterior and posterior thigh areas the knee, and the external genitals are complained of. It will be increased by supporting the weight of the trunk; hence, felt either standing or sitting; made worse by jarring in that position, relieved by lying on the back, but aggravated by lying on the affected side.

The surgeon takes advantage of this knowledge as one of his chief aids to diagnosis by mechanically driving the two joints' surfaces together by counter-pressure over the ilia when the most constant symptom of pain is made manifest. Pain is sometimes wholly absent on pressure over the joint posteriorly, probably in the early cases of affections involving only the anterior portion of the joint.

The rectum lying in front of the inflamed joint will attract the patient's attention by pain, with constipated bowel movements, just prior to evacuation by pressure on the anterior joint, *i.e.*, as the fecal mass passes the bulging made by the inflammatory pelvic exudate. This was a prominent symptom in Cases II. and IV., about to be reported, and suggests the immense importance of a rectal exploration in every case of doubtful hip, iliac, or sciatic disease.

Posture.—Intuitively the patient shifts the weight of the body to the opposite side, as Sayre thinks, to make extension by the weight of the leg, takes short steps to avoid motion at this joint, sets the heel and toe down flat on the affected side, and through efforts to somewhat fix the sacroiliac joint may adduct or abduct the limb to an extent sufficient to make an *apparent* shortening or lengthening, which may misdirect one's thoughts to the hip-joint unless on guard, through the knowledge that this may be likewise induced by sacroiliac disease. By a similar effect on the pelvic veins to that occurring in milk-leg, or pelvic neoplasm, there may be marked edema of the lower extremity. The lack of use of the muscles here in the efforts of the patient to prevent pain soon induces an atrophy on that side, the gluteal region may become flattened, and limping is always pres-

ent. The persistence of the tilting of the pelvis may induce a lateral compensatory curvature above.

Tuberculosis of other joints occurs in one of two ways: by primary synovial tuberculosis, or by bone tuberculosis and extension to the joint, never beginning in the other joint structures, and this holds equally true of the joint under consideration. Therefore, when the synovial invasion occurs there is first what has been called the "moist" variety, of Velpeau, and when extension by the rarefying tuberculous osteitis to the joint, the "dry" or granulating variety. Now, as the synovial portion of the articulation lies at the anterior, or, if we consider the erect posture, the inferior quadrant, it is easily seen how the larger proportion of patients have the cold abscesses appear intrapelvicly, at the point of greatest dependence, where they may burrow in the several manners hereafter mentioned: (1) Forward into the rectum; (2) outward along the pyriformis muscle and sacral plexus behind the great trochanter; (3) downward along the rectum to the ischiorectal fossa; (4) forward and outward along the psoas muscle beneath Poupart's ligament; or (5) upward over the crest of the ilium.

In a certain proportion of cases a fluctuating tumor forms over the posterior aspect of the joint first, and may open directly backward, or burrow up along the erector spinæ muscle to the lumbar region. More frequently this tumor is secondary to the anterior abscess formation and only betokens the spreading of the disease. All but two of the patients whose cases are to be reported here came to me through the hospitals and, therefore, were not seen in the very early stage of the disease, and I cannot therefore add any testimony to the statements made by the authorities that in the very early stages of the disease there is usually to be found a thickening and tumefaction over the dorsal line of the joint, but I should think this to be necessarily true, at least in those in whom, later, the cold abscesses show posteriorly.

Methods of Opening.—When the abscess empties into the rectum (often the first objective symptom noted), the patient calls attention to the purulent discharge, and often is soon seized with the classic symptoms of sepsis—chill, fever, and sweating, as a result of the mixed infection of the tubercular abscess cavity by the intestinal bacteria, and then first calls the physician. Such a sequence followed, too, the spontaneous or surgical opening of such an abscess prior to very recent years, for in the absence of the strictest antiseptic technic a mixed infection takes place similar to that which formerly occurred in opening a psoas abscess, therefore inducing the preantiseptic surgeons to avoid opening, or when opening to resort to the valvular opening with the vain hope of preventing any air or other external vicious elements from gaining access. Ridlon, in writing on this subject, takes the unique position that in this situation the abscess is to be opened, while in the psoas it is not.

Every ischiorectal abscess, especially when of the cold or painless variety, should be carefully examined prior to its opening in order to detect its possible sacroiliac origin. If of such origin, in my opinion it would be better to first excise the joint and drain posteriorly before a mixed infection occurs, unavoidable with an opening near the anal margin.

With the abscesses opened spontaneously or surgically and fistulæ established, whether near the trochanter, under Poupart's ligament, or behind the joint, the direction taken by the probe will be *toward* the sacroiliac junction, *away* from the hip, and though it fail to touch denuded bone, will lead so near to it as to justify the suspicion of the disease at that location. In some cases of mixed infection the spinal canal has been invaded; thus Ashhurst has seen a fatal case by an extension to the sacral canal and cord, as has also Satterthwaite.

Localized elevation of temperature over the joint has been recommended by Holmes, and utilized by Sayre, as a diagnostic aid. When next an opportunity offers I shall endeavor to demonstrate the rarefying osteitis by the X-ray photograph and localize the same, thus gaining information both as to the extent and the position of the focus.

Diagnosis.—Stedman has arranged a convenient differential diagnosis table as follows:

Sacroiliac Disease.

1. Rare.
2. Hip motions free.
3. Young adult males.
4. Spine not rigid though often held stiff.
5. Limb apparently elongated and not infrequently abducted.
6. Characteristic position.
7. Cautious passive movement at hip, painless.
8. Pain usually localized.
9. When sinus, probe goes direction sacroiliac joint.

Hip-Joint Disease.

1. Common.
2. Restricted.
3. Childhood both sexes.
4. Spine freely movable.
5. Character varies.
6. No characteristic position; varies.
7. All painful.
8. In hip, knee, or thigh.
9. To joint of hip.

Pott's Disease.

1. Not common so low down.
2. Free, except when psoas is contracted.
3. Not rare in adults.
4. Spine rigid.
5. Thigh flexed.
6. When verticals destroy forward inclination of body.
7. Painless.
8. Pain in back.
9. Probing no aid as seeks distant outlets.

Sciatica usually occurs in much older people, and there is no characteristic position, and no deformity except slight flexure. No reflex muscular spasm. Gant says the anterior superior spine of the affected

side is lower than the opposite one. Ashhurst says the prognosis is usually fatal though slow.

Treatment.—Having never seen any positive cases in the very early stages of the disease I have had no experience with the methods of rest, of extension, Benjamin-Lee girdle around the pelvis for limiting motion at the joint, or the Hutchinson high shoe on the well foot, with crutches, and a lead sole on the affected side, but theoretically would prefer that rest of the joint, however obtained, which would permit the moving about of the patient in preference to steady confinement in bed with anteroposterior leverage hip-splints. In the present light of bacteriology the external cauterizations and moxæ of olden times have been abandoned, but I would not, therefore, presume to deny their occasional efficacy, their acute inflammatory congestions perhaps acting as does a severe trauma. It is a matter of common experience that tubercular joints follow much more frequently the mild than the severe injuries. The intelligent surgeon will, of course, do what is possible toward rendering the constitutional condition normal, and in the absence of extension of the process to the tissues external to the joint would be justified in trying the simpler lines of treatment. When, however, an abscess exists, I believe it is of the utmost importance to the patient to have it opened *secundem artem*, never here allowing Nature to take its course, since, whether it opens in the rectum or opens spontaneously externally, there comes the dreaded mixed infection, which in the past led the surgeons to take so gloomy a view of any operative interference, and furnished statistics of thirty-eight abscess cases and only three recoveries (Van Hook). We now appreciate the danger to be a pus-infection, and with reasonable care can avoid this danger if the case be seen early enough. Even having once started, we can many times check the process by prompt radical measures.

The dearth of any systematic plans of attacking this joint when one comes to search the literature is most surprising, some of quite recent date failing to refer to surgery at all (Stedman). Van Hook has offered the most practically systematic plan dependent upon the location of the abscess. "If posterior, incise over the joint; if anterior, chisel away the posterior inferior spine of the ilium, and reach the anterior surface of the joint by following through the artificial notch." Study of the joint led me to approach the articular surface from without, after loosening the gluteal attachments with the periosteum, by chiseling away an auricular fragment, corresponding in approximate size to the joint within, directly through the ilium. The localization of this area is particularly easy if the posterior margin of the great sciatic notch is taken as a guide, and beginning posteriorly, piece after piece is chipped off to the depth of the joint. The whole anterior surface can soon be exposed, and then as much more as may be found by the softened condition of the tissues to be necessary, while at the same time access is gained to any abscess lying anterior to the joint which can be properly drained. At first blush one might think such an incision would result in the disintegration of the pelvic ring, but if it is remembered that the strongest ligaments of the body hold these structures in contact, and that the articular surface is designed more for permission of motion than for supporting weight, and that clinical experience shows that radical removal of the diseased structures does not cripple while it does cure what heretofore has been considered a tedious but hopeless ailment, one need not hesitate to act. Terillon has twice trephined the ilium for drainage of pelvic abscesses over necrotic bone. In speaking of this subject, König states that Fischer and Rinnée have trephined for drainage, but it does not appear clear whether he means at the joint or through the ilium. He has done so himself. With the articulated pelvis in hand it will be seen that this method I have recommended enables one to expose the whole joint, if necessary, and enables one to reach the anterior surface without injuring important structures, while the supra-articular route of Van Hook does not even then comprehend any access to the bony joint. All that one can glean from literature, with the exception mentioned, is that the abscesses were opened and the joint curetted, but this is not so easily accomplished as written, and I believe I have described the only practicable plan of safe approach to the joint.

CASE I.—Child, aged twelve years, a patient in the Michael Reese Hospital. Preexisting lumbar curvature, Pott's disease. Entered the hospital with an abscess anterior and posterior to the sacroiliac joint. Opening of the posterior abscess showed fecal complication, and exploration showed complete perforation of the sacroiliac joint. Patient hectic, with general amyloid degeneration. Death after six weeks.

CASE II.—P. W., aged fifteen years, referred to me by Dr. Ernst Schmidt. Abscess over crest of the ilium communicating with an abscess anterior to the joint. Exploration of the exterior abscess confirmed the diagnosis of sacroiliac disease. Curetting of the joint and draining of the abscess permitted the boy to return home with a small fistulous tract discharging a small quantity of pus posteriorly. Death six weeks after return home. Uremic convulsions, general amyloid disease.

CASE III.—L. Y., girl, aged fifteen years; referred to me by Dr. Frank Billings. Had had operation of curettement of the joint at the age of thirteen, by

Dr. J. E. Owens. Wound required fourteen months to heal. Second attack, abscess anterior to the joint burst into the rectum. First noticed pain at stool; then had strong septic fever. Posterior abscess was tympanitic. Contents offensive; fever 104° F. Operation of curettement and chiseling out of diseased bone. Wound eighteen months in healing. Weight before operation 87 pounds, at present 122.

CASE IV.—G. X., male, aged eighteen years, of small size; Jewish. Admitted to Michael Reese Hospital in September, 1897. Thinks trouble was caused by driving a delivery wagon for several months. Six months prior to admission he began to have pain in the knee and thigh, and then became lame. Four months after onset of the symptoms he went to the County Hospital. There an incision for suspected ischiorectal abscess was made. No result. Then a large pelvic abscess was drained by an incision through the rectum. Fever then was severe. The boy did not improve and later came to the Michael Reese Hospital. The tumor could be felt over the right iliac joint anteriorly. Slight temperature. Operation of chiseling away an ear-shaped mass of bone, exposing sacroiliac joint, Dr. D. F. Coolidge assisting. Patient discharged, improved, but the wound not completely healed, with instructions for dressings to be made at the dispensary. He returned on May 21, 1898, with pulmonary tuberculosis and a small sinus.

CASE V.—Male, aged thirty-two years. St. Luke's Hospital. Tumor posterior to the joint with a sinus leading to the lower segment of the joint. Chiseling and curetting operation, packing, with recovery.

CASE VI.—Referred to me by Dr. Ridlon for early operation. No tumefaction. Pain indistinct, classical, and negative. Some lateral curvature. Advised the constricting fixation girdle.

THE ETIOLOGY OF YELLOW FEVER.[1]

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(Continued from page 331.)

III. RELATION OF THE SANARELLI BACILLUS TO THE COLON-TYPHOID GROUP.

In his first memoir Sanarelli calls attention to the fact that the growth of his bacillus on gelatin might at times resemble that of the colon bacillus, and thus give rise to confusion. The marked pleomorphism of the colon colonies, their chestnut-brown color and the characteristic appearance of the colon surface colony would serve to distinguish the colon bacillus from that of Sanarelli. This undoubtedly is true when these organisms are perfectly typical. The colon bacillus, however, can be readily modified when grown for several generations on very alkaline bouillon (40 to 50 c.c. normal NaOH per liter), or when grown on hard fifteen per cent. gelatin. The surface colonies then become circular and raised, but are more opaque then those of Sanarelli.

The Sanarelli organism, in some of its characteristics, resembles the colon bacillus, but on the whole it shows closer affinity to the typhoid bacillus. This relationship can best be seen from the following summary of its cultural properties:

Like the colon bacillus, it gives rise to an acid reaction in litmus-colored media. In special litmus media, where the Eberth bacillus does not change the reaction, the Sanarelli bacillus behaves in like manner. It also gives rise to gas production in glucose and lactose media. It differs from the colon bacillus, but resembles the typhoid bacillus in the following properties:

1. The indol reaction is not given, or but very faintly.
2. Milk is not coagulated.
3. The growth on potato is moist and invisible.
4. It produces no growth in Uschinsky's medium. In this respect it agreed with seven different cultures of the typhoid bacillus. On the other hand, six different colons and the Havelburg bacillus gave excellent growths. This medium is, therefore, as useful as either of the preceding in differentiating typhoid from colon bacteria.
5. It produces no growth in Elsner's medium.
6. Cultures in bouillon of diverse reactions remain cloudy almost indefinitely, and on the surface scarcely any ring or film forms. Occasionally a broken film does form on the surface. The colon bacilli form a ring on the surface, and a more or less broken film; the growth soon settles and leaves a perfectly clear transparent liquid. The bouillon culture of only two out of six different typhoid bacilli became perfectly clear on standing, the remainder were undistinguishable from parallel cultures of the Sanarelli bacillus.
7. In bouillon containing 10 c.c. of normal HCl. per liter, added to the neutralized medium, it gives a very slight growth, and in bouillon containing 20 c.c. of the acid per liter there is no growth whatsoever. The growth of the typhoid bacillus is inhibited in like manner, whereas the colon and Havelburg bacilli will grow quite well in such acid bouillon. In bouillon containing 50 c.c. of normal NaOH per liter the Sanarelli and typhoid bacilli can scarcely develop, whereas the colon bacillus gives a fair growth.
8. On agar containing 10 c.c. of normal HCl. per liter, added to the neutralized medium, the growth at first is very slight with Sanarelli and typhoid bacilli. In about five days it becomes thick, dry,

[1] Read before the Michigan State Medical Society, Detroit, May 6, 1898.

white, and lustrous. No growth develops on agar containing 20 c.c. of the acid. The colon and Havelburg bacilli give good thick, white growth on such agar.

9. On agar containing 20 or 30 c.c. of normal NaOH per liter, added to the neutralized medium, the Sanarelli and typhoid bacilli yield at 39° C. thin transparent growths, indistinguishable one from another. On the other hand, the colon and Havelburg bacilli give on the same media thicker, more opaque growths. The appearance of the Sanarelli bacillus on agar at 16° C. has already been described.

10. On gelatin plates at 16° to 18° C. the Sanarelli and typhoid colonies develop very slowly, and at the end of forty-eight to sixty hours, to the naked eye, they have the same appearance and size. On the other hand, the colon and Havelburg bacilli grow much more rapidly; hence, the colonies are several times larger and opaque, yellowish in appearance. Under these conditions the colon, Emmerich, and Havelburg bacilli form typical crater-like spreading-surface colonies, 2 to 3 mm. in diameter, absolutely indistinguishable. The deep colonies of the colon and typhoid bacteria are circular or roundish, slightly granular, and yellowish in color, whereas the deep colonies of the Sanarelli bacillus are circular, coarsely granular, and dark or black in appearance. The temperature and consistency of the gelatin has much to do with the form of the colonies, as shown in the first part of this paper. The Sanarelli bacillus resembles the typhoid bacillus in the slowness of growth on gelatin, but not to any extent in the form of the colonies.

11. On Stoddart's medium the Sanarelli and typhoid bacilli form an exceedingly thin, almost perfectly transparent growth, which in twenty-four hours covers the entire surface of the medium in a Petri dish. The motile colon bacilli do not, as a rule, diffuse as rapidly, and the growth is considerably thicker and slightly opaque. The non-motile colon, Emmerich, and Havelburg bacilli, merely form large thick colonies in the center of the dish.

It is evident from the preceding that the Sanarelli bacillus is closely related to the typhoid bacillus. Numerous comparisons of these organisms, made under most varied conditions, have shown such marked similarity that one cannot escape the conclusion that the Sanarelli bacillus belongs to the group of typhoid-like bacilli. There is not, however, that perfect similarity, such as is seen between the Havelburg and certain colon bacilli. It is interesting to note that from the first post-mortem made by Sanarelli a pseudo-typhoid bacillus was isolated. From a case of acute yellow atrophy of the liver, Vincent (*Compt. Rend. Soc. Biol.*, p. 462, 1893) isolated a colon bacillus in large numbers, which resembled the typhoid bacillus. It was extremely motile, scarcely fermented lactose, gave no indol reaction, and was said to be moderately pathogenic. The gelatin colonies were discrete and translucid.

In addition to the facts presented above, it may be well to state that, morphologically, the Sanarelli bacillus agrees with the colon and typhoid bacilli. Moreover, from cultures of all three of these organisms, on special media, it is possible to obtain large numbers of what I have designated as giant-whips. Loeffler[1] was the first to observe and photograph these peculiar forms, which he found in cultures of the symptomatic anthrax bacillus on blood-serum. Subsequently (1893), I found these same forms in cultures on agar and blood-serum of a new anaerobic bacillus; also, in malignant edema, in symptomatic anthrax, and in tetanus. These strange forms were also found in the body of guinea-pigs, after inoculation with the first-mentioned organism. Excellent illustrations of these giant-whips were kindly made for me by Pfeiffer of Berlin, and will be found in my paper, *Zeitschrift für Hygiene*, Bd. 17, 209. Sakharoff[2] has met with and figured similar forms, which he obtained from gelatin cultures of the *B. asiaticus*. It is not necessary in this connection to decribe the giant-whips as found in cultures of the Sanarelli, colon, and typhoid bacilli, since they resemble exactly the form described in the papers referred to above. Moreover, at an early date I hope to publish my studies as to the conditions under which these composite, or giant-whips, form.

According to Sanarelli the B. icteroides when grown in bouillon after a few days give rise to characteristic involution forms. These are short filaments bent or twisted, with enlargements at or near the end. At times these are quite abundant, and again may be very rare. These peculiar forms are, however, by no means characteristic of the Sanarelli bacillus. A careful study was made of the involution forms formed in bouillon cultures of the various colon and typhoid bacilli under examination. When these were grown under the same conditions, side by side, with the Sanarelli bacillus, similar forms were observed in all. In some of the typhoid cultures the involutions were more numerous than in others. Similar variation was observed among the several colon bacilli. The cultures of the Emmerich and Havelburg bacilli were especially rich in the long, filamentous, nodular involution forms. The degen-

[1] *Centralblatt für Bakteriologie*, vii, 635, 1890.
[2] *Annales de l'Institut Pasteur*, vii, 550, 1893.

erative forms of the B. icteroides agree therefore with those of the colon-typhoid group.

Another fact which goes to show the relationship of the Sanarelli bacillus to the colon-typhoid group is its resistance to destruction by gaseous disinfectants such as sulphur dioxid and formaldehyd. In the study of the value of these gases for room disinfection which I have made in common with my assistant, Mr. H. H. Waite (MEDICAL NEWS, May 21, 1898), the typhoid, colon, Sanarelli, and Havelburg bacilli were included. In each experiment these organisms were exposed, in duplicate, on silk threads (*S*), muslin squares (*M*), and on cover-glasses (*G*). The specimens were exposed to the action of the gaseous disinfectant in a room having a capacity of 1016 cubic feet (28.3 c.m.) for twenty hours, in open sterile Esmarch dishes. When wet these specimens were invariably disinfected. If, however, they were previously dried at 39° C. for two to three hours, they were less easily destroyed. The cover-glasses with the germs spread on only one side were, as might be expected, disinfected first. The disinfection of the muslin squares in the Havelburg set was undoubtedly due to the fact that these had not dried completely. The following summary of the results obtained with dry specimens is taken from the first three tables in the paper referred to :

		Sulphur 3 lbs.		Sulphur 6 lbs.		Paraform 60 g.		Formalin distillation, 150 c.c.	
Typhoid bacillus.	S.	+	+	+	+	+	+	+	+
	M.	+	+	+	+	+	+	+	+
	G.	O	O	O	O	+	O	O	O
Colon bacillus.	S.	+	+	+	+	+	+	+	+
	M.	+	+	+	+	+	+	+	+
	G.	+	O	O	O	O	O	+	+
Sanarelli.	S.	+	+	+	+	+	+	+	+
	M.	+	+	+	+	+	+	+	+
	G.	+	O	O	O	+	O	+	+
Havelburg.	S.	+	+	+	+	+	+	+	+
	M.	O	O	+	+	+	+	+	+
	G.	O	O	O	O	+	O	+	+

+ =positive growth. O=no growth.

It is evident from the above results that the four organisms possess about the same degrees of resistance to these gaseous disinfectants. This fact, taken in connection with what has been shown above, clearly indicates the relationship of the Sanarelli and Havelburg bacilli to the colon-typhoid group.

This marked degree of resistance of the Sanarelli bacillus is borne out by its behavior to cold. The experiments on this point will be discussed in the last part of this paper.

The foregoing facts demonstrate: first, that the Havelburg bacillus is a non-motile colon bacillus; second, that the Sanarelli bacillus belongs to the typhoid group although, like the colon bacillus, it gives off acid and gaseous products.

IV. RELATION OF THE SANARELLI BACILLUS TO YELLOW FEVER.

In order to obtain a clear understanding of the real relation that this organism bears to yellow fever it is desirable in the first place to present a brief summary of the bacteriological results obtained by Sanarelli in his examination of the human subject. In all thirteen subjects were examined.

CASE I.—Subject died on the sixth day. On post-mortem examination gave seven kinds of bacteria; among these can be mentioned the colon bacillus and a pseudo-typhoid bacillus. The *B. icteroides was absent.*

CASE II.—Subject died on the seventh day. The blood drawn from the finger the evening before death, as well as the blood from the cadaver; also, the spleen, liver, lungs, urine, and bile gave a *"certain quantity" of the B. icteriodes.* In the kidneys and in the tracheal and bronchial secretions it was associated with the colon bacillus. It was not present in the intestinal contents and it is worthy of note that it was in connection with this case the first wherein he found the B. icteroides that Sanarelli arrived at the rather early and very positive conclusion that "the favorable habitat of the microbe of yellow fever is not in the digestive canal."

CASE III.—Subject recovered. On the sixth day of the disease blood was drawn from the finger and was *sterile.* The urine gave cultures of the colon bacillus. *No B. icteroides.*

CASE IV.—Subject recovered. The blood drawn from the finger, as well as hepatic fluid obtained by puncture on the eighth day of the disease remained *sterile.* Similar material drawn on the ninth day gave two kinds of bacteria, *one of which, very rare, was the B. icteroides.*

CASE V.—Subject died on the fifth day. Various bacteria, colon bacilli, and streptococci were present. The kidney alone gave *several colonies of B. icteroides.*

CASE VI.—Subject died on the fourth day. The blood, organs, intestinal and gastric contents gave only the colon bacillus. *No B. icteroides.*

CASE VII.—Subject died sixteen hours after entering the hospital. Urine and bile were sterile. The intestinal and gastric contents contained colon bacilli, streptococci, and diplococci. The tissues contained abundance of streptococci. *No B. icteroides.*

CASE VIII.—Subject died six days after entering the hospital. Blood from the finger as well as hepatic fluid and bile drawn on the second day after entering, or four days before death, gave *pure cultures of the B. icteroides.* This was rare in the blood,

fairly abundant in the hepatic fluid, and very abundant in the bile. On post-mortem examination, made two hours after death, the blood, bile, liver, spleen, kidneys, and urine gave an abundance of B. icteroides associated with staphylococci. The tracheal fluid contained the B. icteroides, colon bacilli, and a torula. The gastric and intestinal contents gave only colon bacilli.

CASE IX.—Subject died in six days. Blood from the finger, and hepatic fluid, drawn the day before death, remained *sterile*. On post-mortem examination of the blood and organs most of the culture media remained *sterile*. A few contained a small bacillus. *One out of six tubes* inoculated with material from the kidney *gave the B. icteroides*. The other five tubes were sterile.

CASE X.—Subject died on the sixth day. Blood from the finger and hepatic fluid drawn eleven hours before death, remained *sterile*. On post-mortem examination, made six hours after death, numerous bacteria were present but *no B. icteroides*.

CASE XI.—Subject died on the eighth day. All the cultures made from the blood, spleen, kidneys, bile, and pericardial fluid were either *sterile* or gave a staphylococcus. The urine gave colon bacilli and staphylococci. Numerous cultures were made from the liver *and all but one remained sterile*. The one tube mentioned received 3 c.c. of *hepatic fluid* and developed a club-shaped bacillus which was assumed to be B. icteroides. On rather forced passage through a rabbit the B. icteroides was eventually obtained. It is evident then that this organism was present in exceedingly small numbers and was feebly virulent; otherwise the body was practically sterile.

CASE XII.—Subject died on the twelfth day. Numerous cultures made with an abundance of material from the blood, liver, bile, spleen, and urine remained *perfectly sterile*. The kidneys gave several colonies of a bacillus resembling that of chicken cholera. Two tubes of agar inoculated with *heart-blood* showed feeble growth in the water of condensation, and it was only after passage through animals, as in Case XI., that it was possible to identify the B. icteroides.

CASE XIII.—Subject died on the eighth day. The bile was sterile. The blood and urine contained a few colon bacilli and staphylococci. The liver contained colon bacilli; *B. icteroides was not found.*

It is evident then that the B. icteroides was found in only *seven out of thirteen cases*, or, in other words, in only 53.8 per cent. According to Sanarelli, the third subject who gave negative results and recovered should be excluded, whereas the fourth, who likewise recovered but gave a positive result is, of course, retained.

As can be easily seen from the preceding summary, in the seven cases where positive results were obtained the B. icteroides was, as a rule, far from being numerous. Thus: Case II., the blood and organs contained the B. icteroides in "certain quantity"; Case IV., the bacillus was very rare in the blood and hepatic fluid; Case V., the kidney only gave several colonies of the B. icteroides; Case VIII., gave abundant growth of the B. icteroides; Case IX., the kidney only, and then but one out of six tubes, gave a culture of the bacillus; Case XI., of the numerous cultures made from the liver (and other organs) all were sterile but one, and that gave an atypical growth of the B. icteroides; Case XII., of the numerous cultures from various organs all were sterile, and only the heart-blood gave an atypical growth of the B. icteroides.

It is evident that, in addition to the very low percentage of cases of yellow fever in which it is found, the B. icteroides is, as a rule, present in very small numbers. *In only Cases II. and VIII. can there be said to be an abundant growth. In the remaining cases the bacillus was present in only one organ, and then in mere traces.*

In the recent report of Pothier (*Jour. Amer. Med. Assoc.*, p. 884, April 16, 1898) on the results of the bacteriological examination of presumably fifty-one cases of yellow fever at the Isolation Hospital at New Orleans, it would seem that he has been able to find the B. icteroides in but *three cases.*

It can truly be said that in no infectious disease where the cause has been demonstrated can the specific organism be found in such a small percentage of cases, and in such small numbers as has been shown to be the case for the B. icteroides.

Sanarelli recognizes this serious defect in his work, and endeavors to explain why it is not present more often and in greater number. Two reasons are deduced. First, the bacillus multiplies very little during the disease, and a small amount of toxin can produce severe symptoms of the disease. Second, the toxin, directly or indirectly, by the lesions it produces facilitates secondary infection. Of these two propositions the first is of the most importance. In five out of seven cases where the bacillus was present it was found in extremely small numbers. The assumption that it produces a very powerful toxin, as in diphtheria or tetanus, would, if confirmed, assist in explaining this anomaly. Is it true, however, that the bacillus produces a powerful toxin?

In his second memoir Sanarelli deals especially with the effects of the toxin, which was prepared by filtering through porcelain ordinary bouillon cultures 15- to 20-days old. Of this filtered liquid 15 to 20 c.c. are necessary in order to kill guinea-pigs in 24 hours. Smaller doses, 2–5–10 c.c., decrease the weight temporarily, but the animal recovers. Ten c.c. or more are necessary intravenously to kill rabbits in 7 to 8 days. In one experiment made

by me 10 c.c. of the filtered culture 4-days old killed a rabbit weighing 1770 gr. in 11 days, whereas 20 c.c. of an 8-day culture killed in about half a day. Similar filtered cultures of the Havelburg bacillus proved even more deadly than those of B. icteroides. In dogs 5 to 10 c.c. injected subcutaneously produced local tumefactions, and "even in large quantity is absolutely incapable of producing the characteristic symptoms of yellow fever." With living cultures Sanarelli claims (*loc. cit.*, p. 501) to produce in dogs the symptoms and principal lesions of yellow fever, and yet the supposed powerful toxin is incapable of producing such symptoms in these same animals. Intravenous injections, as might be expected, are more powerful, and may produce vomiting and diarrhea, but the animal soon recovers if the dose is moderate. A larger dose of the toxin, 150 to 200 c.c., will kill the animal! When such enormous quantities must be injected to produce death it is useless to speak about a powerful toxin. And as far as the vomiting and diarrhea of dogs is concerned, after injection of living or filtered cultures, these symptoms afford no support in establishing the presumed etiological relation of B. icteroides. These symptoms, vomiting and diarrhea, are observed in dogs when injected with most any colon bacillus or with the filtered products.

The goat appears to be much more susceptible to the toxin, since death was caused in one instance when 37 c.c. were injected subcutaneously in seven doses within eighteen days. Strange to say, however, in this very susceptible animal the bacteriological examination was negative. That is to say, the toxin did not assist secondary infection as Sanarelli would expect.

It should be noted in passing that Sanarelli at times employed bouillon cultures sterilized with ether. These are said to be more powerful than when filtered. Ether itself sometimes contains highly toxic substances which can be easily demonstrated by allowing a few hundred c.c. to evaporate and then injecting the residual liquid into a guinea-pig. Death may result in an hour or two with most powerful pathologic changes. Ether should not be employed for animal experiments where injections are practised unless it is known to be free from this poison. Cultures of the Sanarelli bacillus sterilized at 57 to 58° F. are less active than filtered cultures.

Not content with the inoculation of toxin into common animals, Sanarelli resorted to experiments on the human subject. These experiments were not published in the *Annales de l'Institut Pasteur*, and I should have made no reference to these were it not that they have been published *in extenso* in the *Annales d'Igiene Sperimentale*, vol. 7, 1897, and have been freely mentioned in American and English journals.

Two subjects received respectively 2 and 5 c.c. of the filtered toxin subcutaneously. Apart from painful, local swelling, some depression, and lack of appetite, no further results were obtained. The most powerful effects, however, followed the intravenous injection of 10 c.c. of the toxin. Incessant vomiting, complete anuria, delirium, and coma were the result; 5 c.c. intravenously in another subject produced likewise very serious results. A fifth subject was not so susceptible and was given 44 c.c. in four injections in eleven days.

Sanarelli sees in these experiments a perfect demonstration of the relation of his bacillus to yellow fever. To a critical observer his conclusion is not justifiable. Nothing is stated concerning the physical condition of the subjects and the presumption is that they were hospital patients. It is a well-known fact that an animal once subjected to a disease, an infection, or an intoxication, is vastly more susceptible than a healthy organism to subsequent inoculation with a poison. Roux and Martin,[1] for instance, observed that a horse which had received three injections of the pneumococcus of Fraenkel was extremely susceptible, even after the lapse of a year, to the diphtheria toxin (½–1 c.c.). An animal once acted upon by any microbic poison, even though apparently fully recovered, is much more sensitive than a new animal. During the past year I have had numerous demonstrations of this very important fact. Owing to the scarcity of guinea-pigs, I was obliged to use a second time animals which had been inoculated with the diphtheria toxin, or with various bacteria from water, cheese, etc. Although a considerable time had elapsed after the first injection, and the animals had apparently fully recovered, yet when inoculated with the B. icteroides they would invariably die in from twelve to eighteen hours, whereas the time for healthy guinea-pigs, according to Sanarelli, ranges from three to six days. Tuberculous guinea-pigs likewise proved to be exceedingly susceptible to the Sanarelli bacilli.

The reaction of the tuberculin in tuberculous animals likewise constitutes an illustration of what has been said. Blood-serum in itself is certainly non-poisonous, and yet instances are known where the injection of diphtheria antitoxin has been followed by speedy death. This is not due to any poison in the antitoxin, nor is it necessarily due to so-called idiosyncrasy. The organism has been weakened by the action of the diphtheria poison and becomes, therefore, exceedingly susceptible to an otherwise harmless substance. Guinea-pigs that have survived

[1] *Annales de l'Institut Pasteur*, 8, p. 617, 1894.

injections of diphtheria toxin and apparently have fully recovered, will frequently die within an hour after an intraperitoneal injection of 2 or more c.c. of normal serum of man and other animals.

It is evident, therefore, that the weakened conditions of the patients at the time of the injection had more to do with the profound symptoms observed than the toxin introduced. The feebleness of the toxin is seen when subcutaneous injections were practised; and, also, in the fifth case. Moreover, it should be borne in mind that we know nothing about the results in man following intravenous injections of the filtered products of even the most common bacteria. What would be the results in man following intravenous injections of micrococcus prodigiosus, colon bacillus, Eberth bacillus, etc.? In all probability such injections would bring about very serious results, especially in previously diseased individuals.

The conclusion, then, which forces itself upon us, is that Sanarelli's experiments on man have absolutely no practical value and do not prove the existence of a powerful poison nor its fancied relation to yellow fever.

There is still further evidence which goes to show that the B. icteroides does not create a powerful poison. It certainly elaborates poisons within the cell, as in the case of the colon bacillus, vibrio of Asiatic cholera, etc., but this poison does not readily diffuse into the surrounding medium. If the filtered culture contained an active toxin, it should, on injection into an animal, eventually yield an *antitoxic* serum. Through the kindness of Dr. McClintock of the biological department of Parke, Davis & Co., subcutaneous and intravenous injections of the filtered cultures of the B. icteroides were made into a horse. The animal received in the space of five months 974 c.c. of the toxin intravenously and subcutaneously. The serum of that animal has no more value than normal rabbit-serum in preventing infection with the Sanarelli bacillus. The failure, then, to obtain a distinctly antitoxic serum confirms the conclusion arrived at above, namely, that B. icteroides does not produce an active, soluble toxin.

In a recent number of the "Public Health Reports" of the United States Marine Hospital (April 15, 1898, p. 371) there is a statement quoted from Sanarelli that he has been unable to obtain antitoxic serum, and that when injections of cultures were made the serum was bactericidal, not antitoxic. This is in line with the fundamental researches of Roux, Metschnikov, and Salimbeni on immunity against the cholera vibrio. The above acknowledgment places Sanarelli's serum beside the anticolon, antityphoid, and Pfeiffer's anticholera serums. The results obtained by Sanarelli in the treatment of yellow fever with this serum are exactly what might be expected. Of thirty patients treated, ten died, a mortality of thirty-three per cent.[1] The mortality in yellow fever is subject to very great variation. During the recent epidemic in New Orleans it was about eleven per cent. In South America it undoubtedly does rise at times to forty or fifty per cent.

The second reason presented by Sanarelli, in order to explain the difficulty of finding the B. icteroides in the body, was that the specific toxin of the yellow-fever microbe, by its action on the organs, favored secondary infections. The colon bacilli, staphylococci, and streptococci thus introduced, are supposed to outgrow, or even suppress, the B. icteroides, and thus create the difficulty in detecting this organism. In guinea-pigs and rabbits inoculated with B. icteroides the blood and internal organs almost invariably contain pure cultures of this bacillus. In these animals apparently the toxin does not exert this favoring action. Sanarelli himself recognizes this fact. In the goat referred to, which died after repeated injections of the toxin, there was likewise no secondary infection.

In looking over the summary of results obtained by Sanarelli in his examination of yellow-fever subjects it should be noticed that the blood from the finger, and the hepatic fluid were sterile in Cases III., IV. (eighth day), and IX. In Cases IX., XI., and XII., the internal organs were practically sterile and yet in each of these cases the B. icteroides was found in only one tube out of a large number that were inoculated. According to Pothier the blood of eight out of ten yellow-fever patients was sterile.

Undoubtedly it is true that in yellow fever, as in nearly all infectious diseases, secondary invasion is likely to occur, and may be expected, as the result of the action of the specific poison. This invasion, as pointed out above, is by no means constant in yellow fever, and consequently does not constitute a sufficient explanation of the failure to find the germ in not more than 53.8 per cent. of the cases, nor does it explain the small number of the B. icteroides present in most of these cases.

In order to detect the B. icteroides in the internal organs of man, Sanarelli employs a method which is open to serious objection. In view of the fact that the bacillus occurs in small numbers, its detection in tissues is said to be difficult. To facilitate its detection in the several organs, these are first washed with mercuric chlorid and suspended in an incubator

[1] Since the above was written Sanarelli has published a fourth paper (*Annales de l'Institut Pasteur*, p. 348, May, 1898). The statement is made that the mortality was 27 per cent. in 22 cases treated. In the paper 31 cases are described, with a mortality of 32 per cent.

at 39° C. for twelve hours. Under these conditions the organisms present multiplied so that on subsequent sectioning and staining groups of bacteria could be readily demonstrated. Sanarelli assumes that the groups of bacteria thus demonstrated are those of B. icteroides. This is a mere assumption, since any colon bacillus that might be present would give rise under those conditions to exactly the same groups, and the individuals comprising these could not be distinguished from B. icteroides.

Pieces of the liver, kidney, and spleen from Case II. were thus treated and are figured in Plate XII. of Sanarelli's memoir. It is of interest to note that in the description of this case the kidneys are expressly said to contain the B. icteroides associated with the colon bacillus (*loc. cit.*, p. 442). May not, therefore, the group of bacilli shown in Fig. 4, Plate XII., consist of colon bacilli? No definite statement is made regarding the presence of colon bacilli in the spleen or liver, but it is quite reasonable to assume, being present in the kidney, that they were likewise present in the other two organs. Consequently conclusions based upon such methods of work cannot be received with much confidence.

It follows from what has been said that Sanarelli has failed to comply with the first rule of Koch as to the constant presence of this organism in yellow fever. In the action of the pure cultures of the B. icteroides on animals, Sanarelli claims to obtain the final proof of the relation of this organism to the disease. These results, however, are not above question and have no more actual value than the toxin experiments already referred to. According to Sanarelli, the injection of B. icteroides in guinea-pigs produces a cyclic disease which cannot, as a rule, be influenced by the amount of the injected culture. That is to say, the animals usually die in from five to eight days regardless of the dose employed. This cyclic character, on which so much stress is laid by Sanarelli, is by no means constant.

After repeated passage through collodium sacs, employing the method of Roux, Metschnikov, and Salimbeni, it is possible to obtain twenty-four-hour bouillon cultures of this organism which, injected intraperitoneally into guinea-pigs in doses of 1 c.c. as a rule, will prove fatal in less than eighteen hours. The sac method of exalting the virulence of this organism is not necessary, however, to accomplish this result. Vigorous cultures, obtained by frequent transplantation, will give exactly the same result. Consequently, the so-called cyclic character is manifested only by cultures that have already been weakened. Whether the guinea-pig dies early or late the heart-blood and internal organs contain pure cultures of the organism. There is an entire absence of secondary infection. In this respect, as well as in its "cyclic" character, B. icteroides resembles the bacillus of hog-cholera.

The experiments on rabbits are of special importance because of the pathological alterations produced, especially in the liver and kidneys, by this organism. Fatty degeneration of the liver can easily be demonstrated. Moreover, the kidneys show marked inflammatory changes in the glomeruli and in the cells of the tubules. Albumin, and hyalin to epithelial casts, may be found in the urine. These results, it should be remembered, are by no means characteristic of this organism. There is scarcely an infectious disease in man in which some fatty degeneration of the liver and nephritis do not occur. In general, it may be said that infections and intoxications lead to fatty degeneration and to nephritis. These results can be obtained in a number of experimental diseases, even in more pronounced form than with B. icteroides. Thus, a rabbit received a subcutaneous injection of a mixture of three different colon bacilli and died in four days. Neither one of these by itself would under like conditions produce fatal results. The urine contained albumin and casts. The liver showed numerous white spots. On hardening in Flemming's solution and subsequent staining with safranin, exquisite fatty degeneration was demonstrated. In these sections the fat globules were more abundant than in the liver of a rabbit after inoculation with B. icteroides (Sanarelli, Plate XIV., Fig. 2). Sections of the kidney showed marked parenchymatous degeneration. The tubules were frequently filled with detritus, and in many cases the cells were completely loosened. In the above experiment then, as was expected, the same degenerations were obtained, even more pronounced than with the Sanarelli bacillus. No special importance, therefore, can be attached to the experiments of Sanarelli on rabbits.

According to Sanarelli, the dog is the best animal for reproducing the lesions and symptoms of yellow fever. It should be noted at the beginning, however, that the dog is not very susceptible, and hence it is necessary to introduce relatively large doses of the virus by intravenous injection. The marked fatty degeneration of the liver and of the kidney is considered by him as proof positive of the identity of the experimental disease with the yellow fever of man. The vomiting, diarrhea, and icterus were regarded as additional, conclusive evidence of this relationship.

These results might be considered of value if control experiments with other organisms had given negative results. There is no evidence, however, to show that Sanarelli made any comparative trials with other related organisms. Proper controls, in

this and other experiments, would have prevented error. In the first place, the above-mentioned symptoms, vomiting, diarrhea, etc., are produced in dogs as a result of various injections. I have met with these symptoms frequently in dogs after the injection of bacteria found in cheese, milk, etc. Of special importance in this connection are Emmerich's experiments on dogs with B. Neapolitanus (*loc. cit.*, p. 342).—A dog which received a subcutaneous injection of this colon bacillus reacted with frequent vomiting and profuse diarrhea. In three days it lost 450 gr. in weight, and was so weak that it could not stand up. A monkey likewise reacted to Emmerich's bacillus with diarrhea and vomiting, coma, and death.

Not only can certain bacteria, such as the colon bacillus, induce vomiting and diarrhea, but as pointed out above they can induce exquisite fatty degenerations. In cats, Emmerich observed marked fatty degeneration of the kidney. Fatty degeneration of the liver and kidneys can, therefore, be brought about by various organisms.

A third fact observed by Sanarelli in his experiments on dogs was that the gastro-intestinal mucous membrane was often altered and showed hemorrhagic infiltrations. Similar alterations have been described by Emmerich in cats, dogs, and monkeys. Other organisms can induce like infiltrations, as Sanarelli himself indicates.

From the above it is evident that Sanarelli's bacillus produces in experimental animals a disease not unlike that following colon infection. The symptoms and pathological lesions, therefore, do not establish an identity between that disease and yellow fever. From the evidence thus far adduced it is clear that the B. icteroides is not proven to be the cause of yellow fever. From the facts which follow it will be seen that this organism cannot be the cause of this disease.

Agglutination.—The behavior of the Sanarelli bacillus to serum was given a careful, thorough study. The microscopical examination of hanging drops of serum, inoculated with the various organisms, was always resorted to in studying this phenomenon. Where dilutions were employed these were made by adding to a drop of serum, 10, 20, 30 drops, etc., respectively, of distilled water by means of a drawn-out tube pipette. The inoculations were made from agar cultures grown for 20–24 hours at 39°C. The first specimen tested was an antipest horse serum. This, when undiluted, gave prompt and complete agglutination in less than 15 minutes. Another pest serum behaved in a similar manner. A normal horse serum produced excellent agglutination in half an hour. Subsequently a large number of specimens of serum from various sources were examined. The serums of fifteen horses immunized against diphtheria, tetanus, and colon bacillus invariably agglutinated the Sanarelli bacillus in less than one hour when undiluted. In dilution of 1–10 most of these produced agglutination within 2 hours. In dilution of 1–20 less than one-half produced light agglutination within 2 hours. The undiluted serum of normal guinea-pigs likewise produced prompt agglutination. As a rule, the agglutination ceases with a dilution of 1–10, but in several instances good agglutination was obtained at 1–20 and even at 1–30. The serum of guinea-pigs infected with Sanarelli's bacillus shows no quantitative difference when drawn immediately after death, and compared with the serum of the same animal drawn just before inoculation. Normal rabbit serum behaved in exactly the same manner as guinea-pig serum. The blood of seven normal persons and of one sarcoma patient were likewise examined. When undiluted, each one of these agglutinated the Sanarelli bacillus in less than one hour. In dilutions of 1–10 a slight agglutination was given in the same time.

In general it may be said that the serum of healthy men and animals will promptly agglutinate the Sanarelli bacillus. Such serum will give a more or less marked reaction even when diluted with ten parts of water. On further dilution, as a rule, agglutination does not take place.

These results are at variance to some extent, and serve to explain certain results obtained by Sanarelli. These differences are probably due to the fact that Sanarelli has employed the macroscopic method, adding the serum to bouillon cultures in a test-tube, and observing whether or not a deposit formed. This procedure is very defective, and it is not to be compared in accuracy with the microscopic method described above. According to Sanarelli the blood of yellow-fever cadavers possesses a variable power of agglutination. The blood of a convalescing yellow-fever patient induced very slow agglutination. An antidiphtheric serum produced a very rapid, whereas antityphoid serum brought about a partial, agglutination. He further states that the normal blood of man and of many other animals does not induce the phenomenon of agglutination (*loc. cit.*, p. 755). The experiments detailed above effectually disprove this assertion.

Sanarelli in his experiments on men injected with the filtered cultures of his bacillus[1] notes that the serum in the third and fourth case, in a dilution of 1–5, gave a precipitate of the bacillus in twelve hours. The serum of the fifth subject, in a dilution of 1–10, gave complete precipitation in two hours at 37° C., "as if it were the serum of a vaccinated ani-

[1] *Annali d'Igiene Sperimentale*, 7, p. 445, 447, 449.

mal." With reference to these cases Sanarelli arrives at the rather forced conclusion that they represented classical types of yellow fever, and that the fifth case corresponded to repeated typical attacks of abortive yellow fever.

As a matter of fact, as stated above, normal serum of man and animals will cause agglutination in the dilutions mentioned above, and even at times in greater dilutions. The serum-tests in the above-mentioned experiments on man then do not support the interpretation that the intoxication induced was that of yellow fever.

It has been suggested (Lerch) that the agglutination of the Sanarelli bacillus by the serum of yellow-fever patients was of diagnostic value. The fact that normal serum, even when diluted, yields agglutination effectually disproves this statement.

In the preceding part of this paper it has been shown that the Sanarelli bacillus agrees with the colon, typhoid, and Havelburg bacilli in its resistance to destruction by gaseous disinfectants. Experiments with mercuric chlorid, carbolic acid, and lysol have likewise shown that the B. icteroides is a relatively resistant organism. This fact is still further emphasized by the following experiments which it will be seen effectually disprove the claim of its causal relation to yellow fever. It is a well known fact that yellow fever is exclusively a disease of the warm countries. It cannot gain a permanent foothold in the United States, for the simple reason that cold stops its ravages. The first good, sharp frost effectually puts an end to an epidemic of yellow fever. Cold, then, is a most effective and reliable agent for destroying the yellow-fever microbe. To accomplish this end extreme cold is not necessary. The Sanarelli bacillus will not grow at zero° C. Tubes of bouillon, agar, and gelatin, inoculated with this organism and kept immersed in melting ice for two weeks, showed no sign of growth. At the end of that time when placed in the incubator they promptly developed, and these cultures were as pathogenic to guinea-pigs as normal cultures. Even when kept for a month at zero degree the resultant cultures were fatal as usual to guinea-pigs.

The minimum temperature at which the B. icteroides will grow is about 10° C. Agar and bouillon cultures were allowed to develop at this temperature in an ice-chest, and were then left there for five months. In other words, they were kept for five months at a temperature of 10° to 15°C. At the end of that time these cultures were transplanted to bouillon. One c.c. of this new culture developed for 36 hours at 39° C., injected intraperitoneally into a large guinea-pig produced death in 6 days. Evidently no attenuation had taken place, and yet under these conditions one would expect to meet with a weakened yellow-fever germ. On November 29th cultures of the Sanarelli bacillus were placed outside the window, and allowed to remain there for fifteen days. The average minimum temperature for that period was 26.4° F. (−3.6° C.), and the average maximum temperature was 36° F. (2.2° C.). At the end of this period the germs grew as well as before, and their virulence was not diminished.

The following experiment is of still more importance. Agar cultures of the B. icteroides were placed outside of the window for three days during very cold weather. During the first day the temperature ranged from −2° to −13° C. The temperature on the second day ranged from −10° to −20° C., and on the third day from 0° to −15° C. It should be said that most of the time during these three days the temperature was below −10° C. At the end of the first, second, and third days transplantations into bouillon were made. These bouillon cultures were developed for 36 to 40 hours at 39° C., and the resultant growths were in every respect normal. Each culture injected intraperitoneally into new guinea-pigs in doses of 1 c.c. produced death in from 18 to 20 hours.

This last experiment may be considered as a crucial test of the relation of the Sanarelli bacillus to yellow fever. Freezing for three days at a temperature below −10° C. had absolutely no effect on the virulence of this organism. As pointed out above, epidemics of yellow fever are promptly brought to an end by a sharp frost. In other words, the microbe of yellow fever is exceedingly sensitive to cold. This certainly cannot be said to be the case with the Sanarelli bacillus. This organism in its behavior to cold again shows that it is related to the colon-typhoid group. If, therefore, the Sanarelli bacillus were the cause of yellow fever we would expect to find this disease, like typhoid fever, distributed the length and breadth of the American continent regardless of climatic conditions.

The conclusions arrived at in this study can be briefly summarized:

1. The Havelburg and Sanarelli bacilli are distinct.

2. The Havelburg bacillus belongs to the colon group.

3. The Sanarelli bacillus undoubtedly belongs to the typhoid group.

4. Neither the Havelburg nor the Sanarelli bacillus is the cause of yellow fever.

The etiology of yellow fever is yet to be worked out. The microbes of Havelburg and Sanarelli are to be placed in the already long list of disproved causes. The negative bacteriological results, taken

in connection with the epidemiological facts observed in this disease, would seem to indicate that the cause will not be found in our group of bacteria. It is more than likely that the germ of yellow fever, as well as those of smallpox, measles, hydrophobia, etc., belongs to a group of organisms, smaller than our bacteria, and as yet unknown, awaiting discovery. The recent work of Roux and Nocard on the microbe of pleuropneumonia already proves the existence of organisms smaller than the "infinitely small" bacteria.

HYGIENIC LABORATORY, UNIVERSITY OF MICHIGAN.

WAR ARTICLE.

THE INVASION OF PORTO RICO FROM A MEDICAL STANDPOINT.

BY NICHOLAS SENN, M.D.,
LIEUTENANT-COLONEL, U. S. V., CHIEF OF THE OPERATING STAFF WITH THE ARMY IN THE FIELD.

THE occupation of Cuba and the Philippine Islands by our conquering navy and army in such rapid succession seemed to increase the desire of conquest and opportunities to test the strength of our arms. With the destruction of the weak navy of our enemy there was nothing in the way of sending troops to any of the many Spanish possessions. The fall of the heroic Cervera and his faithful little band off the harbor of Santiago before the murderous fire of our well-equipped fleet cleared the pathways of the ocean of further sources of danger. It was but natural that the beautiful island of Porto Rico, one of Spain's most valuable possessions, should have been selected by the military authorities as the next objective point for contention. Repeated attacks by our navy on its best stronghold, San Juan, had failed to bring about surrender and to give a foothold on Porto-Rican soil. So far the navy had taken the lead in bringing Spain to terms and the army was anxious to do its share in wresting from its greedy grasp another enslaved people. Major-General Miles, who conducted the invasion in person, decided to march upon San Juan from several directions, and after uniting the forces attack the city jointly. The experience gained in Cuba had taught us an important lesson in conducting the Porto-Rican campaign. General Miles laid his plans wisely and with special reference to gain the desired object with as little suffering and loss of life as possible. Every movement in this campaign was made with a due regard for the welfare and success of our troops rather than a desire for personal gain and aggrandizement which characterized the Cuban campaign as every one knows. He was well aware of the depressing effects of the tropical climate on the unseasoned troops and of the necessity of resorting to timely and efficient precautions in preventing disease. From experience and personal observation he recognized the fact that the unavoidable privations incident to war are multiplied many times when the seat of war is a strange and remote country which presents a climate and environments unfamiliar to the invading force. His actions were clean-cut admissions that he was in need of a medical advisor and that they were influenced by the frequent consultations held with the chief surgeon. The war in Porto Rico was conducted upon the most humane principles, and although no great battles were fought, victory upon victory followed the footsteps of our army and in less than three weeks our flag floated over three of the largest cities of the island. Our troops love and respect their leader and have followed him without fear and grumbling under the scorching sun, full of confidence and trust.

The news that an armistice had been declared reached the headquarters at Ponce, August 14th, and the troops are now resting on their arms awaiting the final adjustment of the terms of peace. Eager to fight, yet every soldier in the field received this message of peace with joy and enthusiasm, fully satisfied that the army had done justice to the flag and country it represents. Colonel Charles R. Greenleaf, chief surgeon of the army in the field, accompanied General Miles on his trip from Guantanamo to Porto Rico and has been with the army ever since. He was long enough in Cuba to gain a full insight into the horrors created by infectious diseases which so constantly follow large armies, especially in a war of invasion. He was amazed when he saw to what extent yellow fever had broken out during the few weeks the troops had been in Cuba. There was no difficulty in tracing the disease to a total lack of precaution on the part of the general in command. Colonel Greenleaf had given his advice and directions before the army left Tampa, but they were not heeded. Owing to want of cooperation on the part of General Shafter the medical officers found themselves powerless in preventing and combating the dreaded disease. Colonel Greenleaf's prompt and energetic action on his arrival in Cuba did much in suppressing the disease, but it was too late to guard against a general outbreak. The many recent graves in Cuba containing the remains of the victims of this disease are the best proof of what will happen when the leader of an army ignores the health and comfort of his men. In planning the Porto-Rican invasion General Miles availed himself of the invaluable services of his chief surgeon. The expedition was well equipped with medicines, hospital stores, and medical officers to meet all possible emergencies. The result has been that the army has been so far singularly exempt from disease with the exception of typhoid fever and the effects of heat, both beyond the control of medical officers. Since his arrival in Ponce Colonel Greenleaf has been the busiest man in the army. He has not been content in simply issuing his orders from headquarters, but he has attended in person to the execution of every detail. He has visited the camps, the hospitals, and exercised personal oversight over the distribution of hospital supplies, instruments, and medicines. Anxious to serve the sick and wounded, impatient when face to face with a slow, hesitating subordinate, he has more than once performed temporarily the duties of an ordinary hospital steward to furnish a much needed object lesson. His work justifies the confidence imposed when he was appointed to the high and responsible position he holds.

FIRST SKIRMISH.

General Miles landed with his expedition, which included a number of war-vessels, at Guanico, Monday, July 25th. The harbor was entered by the now famous little gunboat "Gloucester," under the command of Lieutenant-Commander Wainwright. A landing was effected by thirty sailors, the Spanish flag was hauled down and the Stars and Stripes raised amid the cheers of the sailors who knew well that what they had just witnessed meant liberty and freedom for the down-trodden people of the island of which they had just taken possession. The planting of the flag and the deafening cheers which reechoed from the hills of the liberated island were followed by a volley from the hidden enemy, which was promptly responded to by the guns of the "Gloucester" and a Colt rapid-fire gun which had been taken ashore. The Spaniards fled in confusion and sought shelter among the adjacent hills, leaving four killed on the field, while our soldiers escaped without a scratch.

The turn of the infantry came soon after landing in the form of a lively skirmish in which we lost one killed and fifteen wounded, of whom one died a day or two later. Most of the injuries were flesh wounds which healed in a remarkably short time. A very interesting incident occurred during this skirmish. The day was hot and our troops had to ascend a steep hill from the crest of which the Spaniards defended themselves. One of the volunteer soldiers, outrunning his comrades, advanced far ahead of his line, and when he had nearly reached the Spanish position was overcome by heat. He fell in a semi-unconscious state. A Spanish doctor rushed to his aid with a stretcher and two hospital-corps men, administered the necessary restorative, and had him conveyed at once within our line. This one act alone goes to show that the Spaniards have often been unjustly accused of being cruel and inhuman. This certainly has not been the case during the present war. From my own observations I am sure that they have respected the Red Cross. In fact the Red-Cross people of Porto Rico, composed largely of Spaniards, have shown the greatest activity and interest in their humane work during the entire campaign. If anything, they have rather been over zealous, judging from the number of insignia displayed and worn. It was a common thing to see men wearing a white cap with an immense red cross on top, another one in front, besides the brassard. Ponce was taken and occupied without any resistance whatever. The citizens received our soldiers with enthusiasm and manifestations of joy. General Miles was hailed as a long-looked for friend rather than a conqueror.

The next engagement occurred between Arroyo and Guayama, between a small Spanish force in ambush and General Haines' brigade, and resulted in eleven wounded on our side. The only death following this skirmish was that of a soldier of the Third Illinois Infantry who was shot accidentally by an unknown man of the Fourth Pennsylvania Regiment. The bullet caused an extensive non-penetrating injury of the chest from the effects of which he died next day. Such accidents have occurred too often during the present war and to prevent repetition in the future this matter should be investigated, as was done in this instance, by the proper authorities. Among the injured was a man who was shot through the pelvis, and another one the subject of a gunshot wound of the elbow-joint, both of them doing well a few days later when I examined the wounded in the Brigade Hospital at Guayama. The third skirmish took place between the advance column of General Wilson's Division on the march to San Juan and a small Spanish force entrenched on the summit of a high and steep hill. Lieutenant Haines, the son of General Haines, was the only one who was brought on board the "Relief" August 14th. One of the wounded was operated on by Dr. Parkhill in an ambulance. The abdomen was torn open by a fragment of a shell, the intestines protruded, and a resection had to be made of a loop for a tearing injury. It was reported that the patient rallied well from the immediate effects of the operation and that hopes were entertained of his recovery. Another engagement took place between the troops under command of General Schwan on their way from Ponce to Mayaguez and about 1000 Spaniards ambushed four miles from the latter city. The fight resulted in two killed and eighteen wounded on our side. All of the wounded were brought on board the hospital ship "Relief," which called at Mayaguez on her way to New York August 15th.

Such is a brief account of the casualities sustained by our army during the Porto-Rican campaign. The experience here coincided with that gained in Cuba to the extent of confirming the humane nature of the modern weapon. The proportion of killed to wounded is even smaller than in the Cuban war, as well as the number of seriously injured. Thanks to the more elaborate preparations for the campaign the wounded received prompt and efficient attention. The suffering of the well, sick, and wounded cannot be compared with what I saw in Cuba. War is a great educator and should we again be called upon to invade a foreign country, we shall profit by the experience of the past.

TYPHOID FEVER IN PORTO RICO.

The native doctors in Ponce, Porto Rico, gave us the assurance that not a single case of yellow fever had been seen in that city for the last three years. We were informed that in San Juan isolated cases occur from time to time. Malaria is prevalent in all the valleys, more especially in and around Ponce. The large pendulous abdomens and the pale faces of the many little naked children in city and country are the best witnesses in showing the prevalence of malarial intoxication. Typhoid fever is endemic in certain localities, but at present Ponce is almost free from this disease. Having seen the destruction of life and the indescribable suffering caused by yellow fever in Cuba, Colonel Greenleaf naturally turned his attention toward protecting our troops in Porto Rico against this scourge. The proximity of Porto Rico to Cuba, and the many possible sources of infection made such a course imperative. That this fear was not unfounded, and that the chief surgeon recognized the danger, and made use of

timely precautions are best shown by the contents of a letter addressed to the Adjutant-General, Headquarters of the Army, and Circular No. 1 issued before the army sailed from Guantanamo to Porto Rico, and a copy of the quarantine regulations formulated at the same time.

Headquarters of the Army,
On Board the U. S. S. "Yale," en route
to Porto Rico, July 23, 1898.

To the Adjutant-General, Headquarters of the Army.

SIR: I have the honor to submit the following recommendations for the prevention, as far as possible, of the introduction of yellow fever into the command now about to land on the island of Porto Rico:

The assignment of an officer of rank, to be placed in command of the base of supplies, with authority to indicate the sites to be occupied by the various supply-depots and the hospital, and to enforce the regulations governing the health of the attachés of these departments and the persons who may visit them on business.

The assignment of a sanitary inspector whose duty it shall be to examine all vessels and persons arriving at our base from seaward ports, and to prepare sanitary regulations for the government of all transportation and persons arriving and departing from stations by land. The officer should have authority to quarantine all suspected persons and means of transportation, and to disinfect their belongings either by fire or by such other means as may be deemed necessary.

All persons connected with the army are forbidden to enter any building whatever on the island without express authority from these headquarters, and all buildings in rural districts that may be suspected of harboring the germs of disease should be destroyed by fire or otherwise disinfected.

As woven goods, particularly those of woolen fabric, are special carriers of disease, the purchase or acceptance of articles of this kind from stores or inhabitants of the island is strictly forbidden. Any such property found within the lines will be at once destroyed and the holder subject to punishment.

That the commanders of regiments be instructed to prepare their camping-grounds with great care and maintain a rigid police in them; under no circumstances shall they camp on ground that has previously been occupied either by troops or collective bodies of the inhabitants.

That medical officers be required to make frequent inspections of the commands to which they belong and that any suspicious case of fever be immediately isolated and the fact of its occurrence reported to these headquarters.

Canteens should be filled daily with tea or coffee, and these beverages used habitually instead of water, unless that has been previously boiled.

Very respectfully,
CHARLES R. GREENLEAF,
Colonel, Assistant Surgeon-General, U. S. A., Chief Surgeon, Army in the Field.

Headquarters of the Army, Office of the Chief Surgeon, On Board U. S. S. "Yale," en route to Porto Rico, July 24, 1898.

Circular No. 1.

1. Medical officers will, upon receipt of this circular, report to the chief surgeon of the army the number of medical officers, hospital stewards, acting hospital stewards and privates of the hospital corps on duty with their command. Also the number of ambulances, litters, and tents, and if medical supplies are insufficient, note the general character needed. This report will be made on the enclosed form:

2. A field hospital will be organized at the army base as soon as possible after landing, and a depot of supplies will be connected with it. As we are widely separated from our source of supplies a strict economy in their use is necessary; surgeons of divisions and brigades will give their personal attention to this important subject.

3. Extreme vigilance is enjoined upon medical officers in the matter of camp sanitation, errors in this particular being promptly reported to the respective commanding officers.

4. The experience at Santiago has demonstrated the efficiency of properly applied first dressings in gunshot wounds; these should be left untouched until the patient arrives at the base hospital, unless the condition of the wound absolutely demands a redressing en route from the first-dressing station. All diagnosis tags will be marked "Dressing not to be removed," or "Redressing required," as the condition demands. Unless an imperative necessity exists, surgical operation will not be attempted at the front.

CHAS. R. GREENLEAF,
Colonel, Assistant Surgeon-General, U. S. A., Chief Surgeon, Army in the Field.

QUARANTINE REGULATIONS FOR THE BASE OF MILITARY EXPEDITION TO PORTO RICO.

1. Every vessel shall be officially visited by the inspector before communication is made with other vessels or the shore.

2. A vessel having yellow fever or smallpox on board shall not be allowed to communicate with the shore, or with other vessels, but shall leave the island.

3. Vessels coming from sources of infection shall be detained five days without communicating either with the shore or with other vessels. If at the expiration of this time no cases of fever shall have developed, landing may be made under the following precautions:

All fomites shall be disinfected by one of the following methods: Immersion for one hour in 1-1000 solution of bichlorid; sulphur fumigation in a chamber 24 hours, four pounds of sulphur being used for each 1000 cubic feet of space, or boiling half an hour with complete immersion. The following need not be disinfected unless directly exposed to infection:

All new and dry material unpacked, all iron and steel implements, all goods in new and original packages not having been broken or packed in an infected locality. Goods other than textile contained in textile material, such as coffee in sacks, bacons, spices, etc., kept dry, and not broken in an infected locality, do not require disinfection other than the container, which shall be treated as fomites as above. Fruits, sound, unless exposed in an infected locality, need no disinfection. Live stock may be admitted.

Such ships shall be thoroughly cleansed and disinfected by the free use of 1–1000 solution of bichlorid, and by fumigation with sulphur before they may again receive men or supplies.

Ships quarantined shall display the usual flag, and those in detention shall be visited by the inspector daily until the time of quarantine shall have expired.

4. Vessels carrying passengers or having fomites from localities of infection, though they (the vessels) may hail from healthy ports, shall be subject to the same quarantine restrictions as vessels known to hail from infected localities.

5. Due precaution shall be taken to prevent infection of the base of supplies through communicating with infected localities along the line of march, by teamsters, and others. As far as possible they should not be allowed to remain at the base longer than necessary to load and unload, nor to come in such contact as to communicate infection. Stragglers, prisoners, and strangers should be immediately sent away.

CHARLES R. GREENLEAF,
Colonel, Assistant-Surgeon General, United States Army; Chief Surgeon, Army in the Field.

Major Woodbury was appointed sanitary inspector. He met with the hearty cooperation of the city authorities of Ponce in the performance of his onerous and often unpleasant duties. The sanitary condition of the city underwent a great improvement in a few days. The water-supply was found satisfactory. The absence of a sewerage system threw many obstacles in the way. The appearance of smallpox in a village some distance from Ponce made vaccination necessary among the soldiers and natives who were not protected against the disease. An abundant supply of vaccine virus was on hand, and was at once issued and used. When I arrived at Ponce, August 7th, I found typhoid fever raging to an alarming extent. It was desirable to trace the origin of the disease. The absence of typhoid fever during this season of the year, its outbreak in all the commands, and the short time that had intervened between leaving the United States and the landing in Porto Rico, made it probable that the disease could be traced to the infected camps occupied by the troops before leaving for Porto Rico. General Miles was very anxious to obtain reliable information regarding the origin and spread of this disease. Pursuant to the following order I made an extensive and systematic investigation:

Headquarters of the Army,
Office of Chief Surgeon, Port Ponce, Porto Rico,
August 11, 1898.

Lieutenant-Colonel Nicholas Senn, Surgeon, U. S. V., Chief of Operating Staff of the Army.

SIR: You will proceed to the town of Ponce, visit the military and other hospitals of that town, and such of the camps in its vicinity as you may deem necessary, for the purpose of investigating and, if possible, determining the cause of typhoid and other fevers now prevailing in the army, and report the result of your investigation in writing to me. Should you find it necessary to have the services of an interpreter, or other civilian to aid in your work, you are hereby authorized to employ him, sending the bill to this office for payment.

Very respectfully,
CHARLES R. GREENLEAF,
Colonel, Assistant Surgeon-General, U. S. A., Chief Surgeon, Army in the Field.

I obtained accurate information of two hundred fever patients, of which number 90 per cent. were well marked typhoid fever, the balance malaria and the result of sunstroke. I estimated the number of fever patients in Ponce and in the immediate vicinity at 250. In extending my inquiries to General Brook's command, with headquarters at Guayama, I found about 145 additional cases; however, in that locality malaria seemed to predominate. Most of the patients came from Chickamauga by way of Charleston and Newport News. The Second and Third Wisconsin Regiments furnished the largest contingent. Almost every soldier in the different hospitals belonging to either of these regiments suffered from typical typhoid fever, and what attracted my attention was that the disease appeared to be of a more serious type than in most of the men belonging to other regiments. The locality from which these regiments came, when encamped at Chickamauga, must have been badly infected.

As the result of my investigation, I reported to Colonel Greenleaf the number of cases found, and that in my opinion the disease was contracted in every instance before leaving the camps in the United States. In view of the fact that most of the cases came from Chickamauga I suggested at the same time that the Medical Department should recommend immediate evacuation of that camp. In Ponce most of the patients found shelter and care in the Spanish Military Hospital, then in charge of Major Ten Eyck, U. S. A. The Club House and a school for girls of the Sisters of Charity were also placed at the disposal of the chief surgeon and were soon filled with patients. Miss Chanler of New York did excellent service as a nurse in the former temporary hospital. A congestion which occurred in the Military Hospital, and which could not be prevented, took place when General Wilson's Division moved forward and unloaded at the door all of the sick in the Division Hospital, some 150 in number. The overcrowded condition was remedied the next day when a large number of the more gravely ill were sent on board the "Relief," anchored in the harbor of Ponce. Medical supplies were in abundance at all times and were freely issued without any formality. The "Relief," and later the yacht "May," brought an abundant supply, with many delicacies for the sick. Milk was bought and freely supplied to the sick. It was the intention of the chief surgeon to establish an extensive outdoor receiving hospital as soon as the tentage arrives, which, according to information received from the Surgeon-General, was then on the way. The number of new cases of typhoid fever in the Porto-Rican army will probably be a limited one, as the victims of this disease were immediately separated from their comrades, and if the troops are recalled as soon as the treaty of peace has been signed we need entertain little fear of the indigenous spread of the disease.

CLINICAL MEMORANDA.

SIMPLE TALIPES EQUINUS.

BY JAMES K. YOUNG, M.D.,
OF PHILADELPHIA;
PROFESSOR OF ORTHOPEDIC SURGERY IN THE PHILADELPHIA POLYCLINIC; CLINICAL PROFESSOR OF ORTHOPEDIC SURGERY IN THE WOMAN'S MEDICAL COLLEGE, ETC.

IT is a fact well known to surgeons generally that simple forms of clubfoot are rare, the compound forms predominating. The first two cases here recorded are interesting on account of the patients having presented themselves within a day of each other, on account of their rarity, and, the first case, because primitive equinus is so rare that Tamplin discredits its congenital origin entirely, not having seen a case. To these are added three cases which were seen previously.

The relative frequency of simple equinus, taken from a large number of cases which were treated in the Orthopedic Dispensary of the University Hospital, is found to be as follows: Acquired equinus 16 per cent.; congenital equinus 2 per cent.

CASE I.—W. H. K., white, male, aged eight years. Had the ordinary diseases of childhood. Family history negative. Labor was not instrumental. Upon examination marked pes equinus was found, which had existed since birth; the heel of the right foot was two inches from the ground. The child also had internal strabismus. The operation was performed on the day of admission, the Achilles tendon being divided and a plaster-of-Paris cast applied with the foot in an over-corrected position. The application of an apparatus was not found necessary.

CASE II.—E. S., white, female, aged three years and eight months. No family history of interest. One and one-half years before the child came under observation she had an attack of infantile paralysis which resulted in a partial paralysis of the muscles of the left leg. Upon examination a limp was seen on the affected side and the muscles were slightly atrophied; the circumference of the left calf was 8½ inches, of the right 8¼ inches. The diagnosis of simple equinus was apparent. The Achilles tendon was divided and the usual plaster-of-Paris dressing applied with the foot at a right angle, this not being over corrected because it was a palsy and not a congenital case. The after treatment prescribed was massage and electricity, to be followed by an ankle brace with equinus stop.

CASE III.—S. N., white, female, aged seven years. At two years of age she had had infantile paralysis. When first seen there was contraction of the Achilles tendon and slight atrophy of the leg, with measurements as follows: Length of right limb, 23⅝ inches; of left limb, 24 inches; circumference of right thigh at 3 inches, 11¼ inches; of left thigh at 3 inches, 12¾ inches; circumference of right thigh at 7 inches, 14¾ inches; of left thigh at 7 inches, 15½ inches; of right calf, 10 inches; of left calf, 10⅛ inches. Right dorsal scoliosis was also present. Tenotomy was performed, followed by the application of a shoe to which ⅜ inches of cork was added inside. This was followed by massage and electricity, which increased the size of the part. The recovery was perfect and the child walked without a limp.

CASE IV.—F. G., white, female, aged eight years. Family history negative. Labor was normal. Had a hemiplegia in early childhood. When the case came under observation the hemiplegia was still present, the arm being atrophied and contracted. The leg measurements were as follows: Length of right leg, 27 inches; of left leg, 26½ inches. The foot was in equinus position and the patient walked with a decided limp. An attempt was made to correct the deformity by mechanical stretching, but without success, after which a tenotomy of the Achilles tendon was performed. This was followed by the use of a shoe elevated with a half inch of cork inside and an ankle support with an equinus stop.

CASE V.—E. T., white, female, aged eight years, of good ancestry. Labor was difficult and the child was delivered with forceps. The present deformity occurred at two years of age and consisted of a right hemiplegia. When the case came under observation June 22, 1898, the arm had recovered but the deformity of the lower extremity was still present. There was contraction of the Achilles tendon, the heel being raised 1½ inches from the ground. There was slight atrophy of the right leg, the circumference of the right calf being 9½ inches, and that of the left 9⅞ inches. Tenotomy of the Achilles tendon was performed and this was followed by the adjustment of an ankle brace with equinus stop.

These cases, when properly treated, give the most satisfactory results of all orthopedic cases, and in many instances the deformity is not only corrected, but the disposition of the child is improved.

APPENDICITIS IN A CHILD. SARCOMA OF THE HUMERUS. TUBERCULOSIS OF THE RIGHT KIDNEY AND URETER.

BY WILLIAM D. HAMILTON, M.D.,
OF COLUMBUS, OHIO.

CASE I. *Appendicitis in a Child.*—Edna D., aged nine years, was brought to Mt. Carmel Hospital by Dr. Callinan of Corning, April 7, 1896. Forty-eight hours previously she had been taken with general abdominal pain and vomiting. On the day before her admission her physician first saw her. He diagnosed appendicitis and advised operation. Her condition upon admission was as follows: She was well nourished, but evidently very sick. Her cheeks were highly flushed, pulse 138, and temperature 100° F. Some tympanites; irregular and modified dulness over the entire right half of abdomen, with extreme tenderness. She had vomited dark-green material during the day. She evidently had suppurative peritonitis. The right lower segment of the abdomen was most tender.

Ether was given, and after the parts had been cleansed an incision was made over McBurney's point. In making the section the infiltrated abdominal walls were suggestive of pus, which, upon entering the cavity, was found external to the cecum. It was at once evident that the fluid was not walled off by adhesions; that there was pus in the loin and in the pelvis as well, and that she had a

general purulent peritonitis. A median incision was made opposite the cul-de-sac, and more pus was found. The appendix could be felt overlapping the external iliac vessels and dipping into the pelvis. Although but eight minutes had been spent, including that in irrigation, she was suffering from shock. It was, therefore, deemed wise to insert gauze drains, and to allow the operation to remain incomplete. Strands of gauze were inserted from the loin to the opening in the groin; also, from the cul-de-sac through to the lower angle of the median incision. Several ounces of pus had been evacuated. The next week she was better. On April 18th, however, she complained of pain and tenderness in the loin, and had fever. She was again etherized and a counter opening made in the right loin, which allowed the escape of the lumbar accumulation.

On May 9th a third operation was performed. The openings previously made were explored for the appendix. It had originally been located on the brim of the pelvis. It was finally found in the loin, outside of the colon, buried in a mass of adhesions, from which it was with difficulty enucleated. It contained a concretion. Although one hour was consumed in the operation there was no shock. Her convalescence was uneventful. She is now in perfect health.

CASE II. *Sarcoma of the Humerus.*—A. L. F., a farmer, aged forty-two years, a resident of Arblia, Union County, Ohio, entered the hospital April 23, 1896. His family history was good, no case of malignant disease having occurred. He had had good health. He stated that in June, 1895, he strained his right arm in lifting. He supposed that the bone was "cracked" at the time of the accident, although he used the member with some discomfort until November, 1895. In that month, however, when using an ax, the humerus broke spontaneously at the middle. Since then the member had been useless. He could make some movements below the wrist, but few if any above that point. A fusiform, rather solid enlargement of the arm, involving the upper half, reached nearly to the shoulder. A hypodermic needle having been driven into the growth, an ounce of dark-colored, bloody serum was withdrawn.

A diagnosis of malignant disease, probably sarcoma, was made, and an operation performed on May 1st. In order to minimize hemorrhage it was thought best to ligate the subclavian artery in its third portion. A tourniquet could not be applied as there was no room for it. Amputation was performed at the shoulder-joint above the diseased portion of bone. The loss of blood was very slight, and there was no shock. The patient made a prompt recovery, has increased in weight and strength, and is enjoying excellent health.

The specimen was afterward examined and was found to be a sarcoma. The growth was as large as two fists. For two-thirds of its length the humerus had disappeared. Spicula of bone could be seen in the substance of the growth.

CASE III. *Tuberculosis of the Right Kidney and Ureter.*—The patient, an unmarried woman, aged twenty-three years, was referred to me by Dr. Robert Shannon of Piqua, Ohio. There was no history of tuberculosis in her family. She had been healthy until a few months previously, when she was taken sick with a disturbance of the bladder. She had fever and frequent and painful micturition. She had lost about fifteen pounds in weight. Soon after her illness began catheterization was necessary on account of retention. The urine was drawn three or four times a day. Pus was always present. A fortnight before her admission to the hospital vesical irrigation was frequently carried out, but without benefit. After admission she voided her urine every few minutes. She was unable to sleep. A urinalysis at this time showed it to be alkalin and free from sugar. Its specific gravity was 1028, and pus was present in large amount. No tubercle bacilli could be found then or subsequently. Cystoscopy by my colleague, Dr. Charles S. Hamilton, by the Kelly method, showed that the base of the bladder was inflamed and red, and at one point at the base of the organ it bled rather readily. The right ureter was thickened and was palpable through the vagina for a distance of three inches. During ether anesthesia, the right kidney, somewhat enlarged and slightly movable, could be felt in the loin. On two subsequent occasions, once without ether, cystoscopy was repeated, the last time on November 25, 1896, when redness of the base of the bladder in the ureteral region, with occasional areas where the normal glaze of the bladder was absent, was noted. The region of the right ureteral orifice was reddened more than any other part of the bladder. The left ureter was catheterized and the instrument left in place long enough to collect several ounces of urine, which was subjected to microscopic and chemical examination with negative results, no evidence of disease being found. The patient's appetite was poor. Her heart and lungs were normal. A boggy, tender lump, somewhat larger than a fist, could be felt in the right loin in the region of the kidney. Its size seemed to vary at different times.

A diagnosis of tubercular pyelonephritis, with ureteritis, was made, and an operation performed on December 31, 1896. Ether was given, and a firm pillow placed beneath the left loin. A six-inch incision, from near the last rib, was made obliquely downward and outward to within one and one-half inches of the right anterior superior spine of the ilium. The kidney having been exposed, it was peeled from its fatty capsule. It was movable, and the lower end was larger and evidently distended with pus in such a way as to increase its size one third. The pelvis and vessels were freely exposed, and the kidney delivered onto the surface of the abdomen. The vessels were tied with silk in two parts, leaving a long button after division. The ureter was tied just below the pelvis of the kidney, and touched with carbolic acid. When the ureter was divided a teacupful of urine and pus, curdy in character, escaped and soiled the field of operation somewhat. The usual toilet of the wound was made, and it was partially closed, with iodoform-gauze drainage. The pedicle was tied with strong silk. There was practically no shock. Time, one hour and fifteen minutes. The patient once or twice became very cyanotic as

a result of the anesthesia, and her tongue had to be drawn forward. She was soon convalescent, and her temperature became normal. A few days after the operation some fever resulted from suppuration about the ligated ureter. She gained ten pounds in weight, menstruation, which had been absent during her period of invalidism, returned, and her vesical annoyance was about relieved.

On examination of the removed kidney it was found that the typical appearances of tuberculous pyelitis were present. The pelvis of the ureter was dilated, and coated here and there with miliary tubercles. The ureteral obstruction was evidently caused by dilatation of the pelvis and the resulting atrophy of the renal cortex.

The redness of the bladder seen on cystoscopic examination was considered to be due to the irritating character of the urine discharged from the kidney, and not to tuberculosis of the bladder-wall or mucosa. The patient had suffered from attacks of renal pain when the distention of the kidney with pus and urine was greatest. These attacks were terminated invariably by a free discharge of purulent urine from the bladder. She soon experienced great relief from the dysuria. I would have been inclined, however, to advise removal of the kidney, even though the bladder had shown, *in a mild degree*, the lesions of tuberculosis, on the ground that the kidney was the primary focus of the disease, and that no amelioration of vesical symptoms could have been expected until the bladder had been freed from the injurious effect of purulent and irritating urine from the diseased kidney. I have seen at least one case in which manifest tuberculosis of the bladder in the female was cured by removal of a tuberculous kidney, the patient being in good health and free from symptoms two years after the operation.

MEDICAL PROGRESS.

Removal of the Saphenous Vein for Chronic Phlebitis.—VIKO (*Jour. Amer. Med. Assoc.*, July 9, 1898) removed, with complete success, the saphenous vein, from the inner malleolus to one inch above the knee, in a case of chronic phlebitis. As a result of this operation, the patient was for the first time in fourteen years freed from swelling, induration, and eczema of the leg, and could walk and stand with comfort. Since this operation gives such good results in varices the writer thinks that it should be equally helpful in chronic phlebitis, where the veins have lost their function anyway, and act only as irritants. Drugs may for a time relieve the eczema, pain, and swelling, but their action is only temporary, while in surgical measures as above described, there is hope of a speedy and complete cure.

Results of Treatment with Superheated Air. — REED (*Philadelphia Polyclinic*, August 6, 1898) gives some of the results obtained in a year's use of the Sprague Hot Air Therapeutic Apparatus. Not only were patients benefited who suffered from rheumatism and gout, but the success of this treatment in bronchial and asthmatic difficulties, in tonsillitis, conjunctivitis, and many nerve troubles was abundantly demonstrated. Hot air proved itself a sovereign remedy for sprains, bruises, and synovial effusions. In gout, even if tophi have formed, they may still sometimes be softened and discharged through the excretory organs, as the skin and kidneys are stimulated by the hot blood, and circulation is restored to the affected part. Sleep returns to the sleepless, and the general economy is rejuvenated. Sciatica of some months' standing, lumbago, and torticollis were sometimes cured in one application, as were lobar pneumonia and pleurisy. Rheumatoid arthritis was treated with varying success. The soreness and general symptoms were generally relieved, but often the stiffness of the joints remained in spite of repeated applications. In all cases where persistent efforts were made, the progress of the disease was checked. Altogether Reed had at his command records of 1400 applications of high degrees of heat, in a great variety of affections, and from the study of these cases he is well satisfied that the use of superheated air is capable of a wide application in medicine, and will help in the better understanding of lithemic affections. When the nature of the malady was such that the body of the patient was placed in the apparatus, the heat employed was from 250°–260° F. If the arm or leg was placed in the cylinder, the air baths were often given at a temperature of from 300°–350° F. Any apparatus which will not give as high a temperature as this must be of limited service.

Traumatic Suppurative Splenitis.—CROMWELL (*Maryland Med. Jour.*, August 13, 1898) was called to see a strong and healthy girl, aged seventeen years, who to avoid being caught in a shower had run a mile to her home. During the last part of this run she had a severe pain in her left side, but did not stop for it, and the pain subsided of itself some minutes after she had reached the house. It recurred the next day and become more severe. Two days later an examination revealed a tumefaction on the left side of the abdomen and above it a deep sulcus, which the patient said was caused by the band of her petticoat, it being very tight. The patient could obtain a degree of comfort by lying continuously on her right side. Iodin and blisters proving of no avail in reducing the inflammation, an incision was made through the abdominal parieties, and into the substance of the inflamed spleen, and a great deal of blood, followed by pus escaped. The flow of pus continued for several days under the influence of emollient poultices, and after it ceased there was a flow of serum lasting several days longer. The total discharge of blood-pus and serum was estimated at thirty ounces. The girl made a perfect recovery.

Piperidin as a Uric-Acid Solvent.—TUNNICLIFFE and ROSENHEIM (*Lancet*, July 23, 1898), who, some time since, called attention to the solubility in water of piperidin urate, have more recently been conducting investigations in order to see if this remarkable property of piperidin can be utilized in medicine. Their plan was to study the subject from (1) a chemical and pharmacological, and (2) a clinical point of view. The first part of their research has been completed, and the report has been presented

under the following heads: I. Chemistry. II. Conditions which must be filled by any drug to justify its therapeutic use in the uric acid diathesis, including under this head gout. (*a*) Proof of the non-poisonous nature of the drug in doses equivalent to those in which it would have hypothetically to be administered; (*b*) the demonstration of the drug as such in the urine; (*c*) the property of dissolving (1) uric acid (on the distal side of the excreting membrane of the kidney), (2) urinary sediment, and (3) sodium biurate in the blood. Under *c* a comparison is given between the power of piperidin and that of other known uric-acid solvents.

This outline gives an idea of the scope of the report. The conclusions stated in the words of the writers are as follows:

"1. Tartrate of piperidin may be safely given to a man in doses of 15 grains (1 gram) three times a day or oftener, in uric-acid gravel and in gout.

"2. Taking all the conditions into account, this substance is preferable to any other drug up to the present introduced for this purpose, having the additional advantage of being sufficiently cheap to render it within the reach of every one.

"3. Lysidin, piperazin, and urotropin all have an influence in increasing the solvent power of serum for sodium biurate and urine for uratic deposit in varying proportions, but to a less extent than piperidin."

These experiments, so far as they have gone in this direction, tend to show that all these substances diminish the total amount of uric acid excreted, but not the total amount of nitrogen. This fact seems to indicate that these substances have a double action, in that, although capable of acting as uric-acid solvents, they also exert an influence upon metabolism.

The close relationship between the constitution of uric acid and xanthin bases renders it possible that under the influence of these reducing agents (to which class uric-acid solvents mostly belong) uric acid is in the body transformed into xanthin or its immediate allies. This reduction has recently been accomplished in the laboratory with the help of formic acid, chloroform, and potassic hydrate.

An Unusual Complete Rupture of the Aorta.—Ashwin (*Lancet*, July 9, 1898) reports a case of complete rupture of the aorta occurring in a man aged fifty-six years, in which life was prolonged for more than five hours after the break took place. The patient was walking quietly on level ground when he fell suddenly. He was unconscious, and was at once carried into a hospital. He was in a state of profound collapse, from which he did not recover, though he twice vomited matter without special characteristics. He was thought to have suffered from cerebral hemorrhage. The examination made after death showed that the pericardium contained about six ounces of freshly coagulated blood, and that the aorta was torn clear across about three-fourths of an inch above the semilunar valves, and that the pericardium covering the vessel had been stripped up as far as the origin of the innominate artery. This lesion, and a further most remarkable one by which the lumen of the torn vessel was kept patent, explained the length of life after so serious an accident. This was an invagination of the distal ruptured end into the transverse portion of the arch. The intima of the invaginated portion looked inward, not outward, and it was not evident how this could be possible until the invagination was reduced. Then it was seen that the ruptured end of the vessel had been turned inward and passed through a rent in the wall of the aorta just below the origin of the innominate. A second invagination had taken place, the end of the vessel being again turned inward, and passed through a second rent in its own wall a little nearer to the heart than the preceding one. By this means the lumen of the distal portion of the ruptured aorta was preserved, so that the blood which escaped from the upper end of the vessel into the pericardial sac could continue its course into the descending aorta. No explanation of this unusual invagination is offered. Any one may reproduce it by taking a soft rubber-tube of large lumen and cutting two holes in the opposite sides, distant about two and three inches respectively from one end. Then disregarding the hole nearest the end of the tube, invaginate the end of the tube as far as the second hole, pulling it out through this hole. Next invaginate into itself the end of the tube which protrudes through this hole, causing the end of the tube to pass through the hole nearest the end into the lumen of the non-invaginated portion of the tube. The lumen of the tube will thus be reestablished, but imagination fails to depict how this could take place in the living aorta. There were no lesions of the cardiac valves, and only a slight hypertrophy of the left ventricle, and several small atheromatous patches in the aorta.

The Role of Clothing in the Causation of Disease.—Goldschmidt (*Therap. Monatshefte*, July, 1898) says that too little attention is paid to the effect of clothing in producing disease and of causing symptoms in those already ill. The weight of the clothing is often a serious load for an invalid, and the effect of perspiration is to increase the weight sometimes as much as threefold, this depending on the nature of the material, etc. In phthisical and rachitic individuals, in whom the sweat is so profuse, such an increase of weight may mean a great deal. The evil effects which other patients may suffer from uncomfortable corsets, tight collars, stocking supporters, and leather shoes are fully treated of by the author. Local pressure is a disadvantage, though a general even pressure may, in some instances, be a help to recovery, as illustrated by the benefit obtained in ulcer of the leg from an even elastic bandage. Friction from the clothing is a further subject for consideration. If upon the sensitive parts of the body, for instance the genitals, this may produce nervous symptoms, or it may develop or retard the cure of an eczema, etc. The effect of different kinds of clothing is different in this respect, just as the fibers of cotton, wool, and linen vary in harshness, conductibility for heat, and in the ability to absorb moisture. The color of the clothing and the weave of the goods must also be considered in reference to the conditions under which it is to be worn if one desires to give really intelligent advice as to its fitness.

THE MEDICAL NEWS.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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Address the Editor: J. RIDDLE GOFFE, M.D.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK.

Subscription Price, including postage in U. S. and Canada.

PER ANNUM IN ADVANCE	$4.00
SINGLE COPIES	.10
WITH THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, PER ANNUM	7.50

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LEA BROTHERS & CO.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK,
AND NOS. 706, 708 & 710 SANSOM ST., PHILADELPHIA.

SATURDAY, SEPTEMBER 17, 1898.

THE ARMY INVESTIGATION.

THE vigorous and persistent demand of the country for an official inquiry into the causes of the alleged neglect, mismanagement, and consequent suffering of our soldiers has finally drawn from President McKinley an order for an investigation. Technically, and as a matter of formality, this order came in answer to a report from Secretary Alger. Surgeon-General Sternberg saw the necessity for this weeks ago and promptly placed on file a petition for a Court of Inquiry. Had this request been acted upon immediately some conclusion might have been reached in time to be of service in ameliorating the condition of some of the transports and rendering service to the army in Porto Rico.

It is well, however, that the investigation is to be prosecuted now. The proposition of the President is broad in its scope and prescribes an examination into the conduct of the commissary, quartermaster, and medical bureaus of the War Department during the war, and into the extent, causes, and treatment of sickness in the field and in the camps. The investigation will, therefore, cover the entire conduct of the war and probe to the bottom all the charges of neglect and inefficiency that have been made. The personnel of the committee of investigation, as already outlined, gives promise of most thorough, impartial, and searching work. The pressing need of the hour and the work that will be productive of immediate beneficial results is indicated in the last part of the President's pronunciamento and has reference to the extent, the causes, and the treatment of sickness in the camps. Active operations in the field are at an end, but the Volunteer camps will be continued for a year or two, and some more efficient means must be devised and enforced to keep them free from disease than has obtained during the past few months. To discover, apprehend, and punish those who have been responsible for the neglect and suffering of our soldiers in Cuba and on the transports may be important as a warning in the future, but the immediate health of the troops in camp is a far more urgent cause of anxiety. The discovery of the cause of disease and the establishment of such sanitary and hygienic regulations as shall protect and preserve the health of the Volunteer Army is the demand of the hour.

IODOFORM IN LOCAL TUBERCULOSIS.

LOCAL tuberculosis occupies a place in surgical pathology that astonishes the surgeon himself when he looks over his case-book at the end of a year and finds what a high percentage of his cases have come under that category. If he is in attendance at a children's hospital this percentage mounts to a very high figure. The surgery of tuberculosis, however, is not confined to the use of the scalpel, curette, and bone-chisel, since one of the most decided advances along this line is the positive demonstration that *iodoform* is curative when brought in contact with tuberculous tissue. This fact has led to its extensive use as an injection into all tuberculous areas and its value is far greater than the average practitioner realizes. Tuberculous joints need not always be excised, caries of the spine is most beneficially influenced by iodoform, and cold abscess in any part of the body should be treated by this method before open operation is suggested.

Billroth and Mikulicz were among the first to propose the injection of such cavities with a ten-percent. solution of iodoform, and the following repre-

sents the accepted method of procedure at the present day: The tuberculous abscess or joint cavity is first tapped under strict aseptic precautions with a large trocar and the semi-fluid contents and tissue fragments withdrawn. The cavity is then thoroughly irrigated with sterile-water, and a ten-per-cent. mixture of iodoform in glycerin injected through the trocar to a full distention of the cavity. The filled cavity or joint is then manipulated to bring the iodoform solution in contact with every interstice of its interior. A gradual absorption of the glycerin leaves powdered iodoform in direct contact with every part of the tuberculous lining membrane. The cavity usually refills and the process must be repeated two or three times at intervals of a few weeks before a cure is effected. The iodoform appears to cause a breaking down of tuberculous membrane lining such a cavity, the underlying tissues are stimulated to throw out granulations which help to soften and throw off the membrane, and the cavity eventually cicatrizes. Normal cartilage in a joint is unchanged by the iodoform and the amount of motion regained in such a joint will depend upon the extent of the destruction already existing in the articular cartilage.

The best point for puncture in the wrist is just below the styloid process of the ulna, and in the elbow-joint just above the head of the radius. In the hip a point is chosen just above the greater trochanter (the thigh adducted and rotated inward) and the needle thrust directly inward until it strikes the head of the femur. The knee is best tapped on either side beneath the patella, and the ankle beneath the malleoli. Anesthesia is unnecessary in any one of these processes. A joint retains its swelling, as a rule, after the first injection and a slight reaction is present, but with subsequent drainage and injection of the joint at intervals of three or four weeks, the tissues become firmer and the swelling disappears. As a primary measure in all cases of joint tuberculosis this method possesses great value, and in such cases as spinal caries (Pott's disease), where the diseased bone is inaccessible to operation it is invaluable. Of course in those cases of bone tuberculosis where an open operation may remove entirely the diseased area and leave the parts in a condition suitable for permanent cure, operation is to be preferred. Tuberculous sinuses are much benefited and often healed by the use of a ten-per-cent. solution of iodoform in olive oil. The orthopedic surgeon is certainly teaching us two very important facts with regard to local tuberculosis; first, that the condition is amenable to treatment to the degree of perfect cure; and second, that the attainment of this result requires unlimited patience and perseverance.

ECHOES AND NEWS.

Professor Virchow in London.—Professor Virchow will deliver the next Huxley lecture at Charing Cross Hospital, London, in October. It is proposed by the prominent members of the profession of London to extend to him the courtesy of a public dinner at which Lord Lister will preside.

Spanish Prisoners Arrive in Spain.—The Spanish transport "Satrustoqui" is reported as having arrived at Santander, Spain, from Santiago with Spanish prisoners. General Lenares, the former commander of the Spanish forces at Santiago, was a passenger. There were eighty-three deaths during the voyage.

The Tri-State Medical Society.—The Tenth Annual Meeting of this Society, consisting of the members of the profession of Alabama, Georgia, and Tennessee, will be held at Birmingham, Ala., Tuesday, Wednesday, and Thursday, October 25, 26, and 27, 1898. Dr. Frank Trester Smith of Chattanooga, Tenn., is the secretary.

Alleged Poisoning from Eating Canned Meats.—So common, a few months ago, were the cases of alleged poisoning from eating canned (tinned) meats in London that the London Chamber of Commerce appointed a special committee to investigate the matter. The committee has reported that it invariably found such allegations to be unfounded.

Sick Soldiers at Santiago.—Major Lawton, commanding at Santiago, reports that there are not more than fifty of the Fifth Army Corps now remaining in Cuba who are sick. Two hundred and sixty-one convalescents and others left Santiago last week on the "Vigilancia." She arrived at Montreal September 13th. There were three deaths during the voyage. Sixty men were transferred to hospital.

Dr. Pratt and the Chicago Academy of Medicine.—Dr. James G. Kiernan, the Secretary of the Chicago Academy of Medicine, announces over his signature that the recently issued catalogue of the Chicago College of "Osteopathy" contains the assertion that the "orificialist surgeon," E. H. Pratt, one of its faculty, is a member of the Chicago Academy of Medicine. Dr. Kiernan says that he has never been a member, nor is he eligible.

Americans Killed in Battle.—The official records of the War Department, as far as completed September 6th,

show that during the war with Spain there were 33 officers and 231 enlisted men of the army killed in battle, a total of 264. This number includes all the lives lost in battle in the Philippines as well as those in Cuba and Porto Rico. The percentage of officers killed is strikingly large, and is said to be unprecedented in the battles of the world.

The Denver Meeting of the American Medical Association.—The generous hospitality accorded the members of the Association and invited guests at the meeting in Denver will be long remembered by those who accepted it. It is gratifying to know that after all bills, including the subscription of $2000 to the Rush Monument Fund, had been paid by the local committee of arrangements, something over $4000 remained in the hands of the committee and was returned *pro rata* to the subscribers to the entertainment.

Yellow Fever in Mississippi.—Surgeon Carter of the Marine Hospital Service has reported that the total number of yellow-fever cases which have appeared at Orwood, Miss., is thirty-five but as yet there has been no death. The disease has been traced from Orwood to Taylor, a small town in northern Mississippi, where five cases were reported on July 20th. Two of the persons affected afterward moved to Orwood and from this the disease is believed to have been propagated. The disease is mild in type and no fears are entertained that it will become serious in character.

The Sectional Addresses of the British Medical Association.—In commenting upon these addresses the *Medical Press and Circular* says: "We have been rather painfully impressed in more than one of the addresses at Edinburgh by the somewhat carping, lower-motive attributing, not to say sordid, tone that has been struck by their authors. This was not altogether wanting in that portion of the 'Address on Surgery,' called by the author the moral aspect of the art, or rather of its practice. It was repeated by Dr. Joseph Bell in the children's section, and especially by Dr. McBride, who occupied the chair in the section of laryngology and otology."

The Source of Typhoid Fever at Camp Black.—Colonel Byrne recently appointed to investigate the source of typhoid fever at Camp Black reports that nearly all the typhoid cases there are among the members of the 201st Regiment. The water-supply of this regiment is good; the drainage system of the camp excellent. The source of typhoid infection was obscure until Colonel Byrne discovered that the men had been in the habit of bringing water in pails from a farm well at some distance from the camp, because it was cooler and more palatable than that from the camp hydrants. This well was found to be within twelve feet of a loosely built vault which received the waste of a supposed typhoid-fever patient.

The Return of the Porto-Rican Army.—The transports "Chester" and "Obdam" arrived at New York last week from Porto Rico bearing members of the First Army Corps who were returning home from the Porto-Rican campaign. The "Chester" brought 60 officers and civilians and 1150 men, making a total of 1210. The "Obdam" brought Major-General Miles and his staff, and about 1000 men. All on board were well. On board the "Chester" there was one death during the voyage, that of Captain M. H. Smith, Company K, Fourth Pennsylvania. Six men were in the ship's hospital, five suffering from typhoid fever and the other from malaria. The University of Pennsylvania Hospital sent a special train from Philadelphia to New York to meet the "Chester" and transport immediately to its wards as many of the Pennsylvania Regiment as required hospital care.

Vaccination and the Queen's Speech.—The absence of any reference to the new Vaccination Act in the Speech from the Throne on the closing of Parliament is by no means without its significance. Her Majesty's example in matters affecting the health of her people has always been in the direction of encouraging everything which science and practice have proved to be of real benefit to them, and in no matter has the example been more marked than in the advocacy of vaccination as the real preventive of smallpox. When Parliament was opened the Vaccination Bill was announced by the Queen to the Houses of Parliament and through them to her people. The Bill has passed in a form which causes deep anxiety to a large portion of the more intelligent classes, and in dissolving Parliament no reference is made to it by her Majesty. It is well known that the preparation of the Queen's Speech is no mere matter of form which is delegated to her ministers. Hence the significance of the omission.—*Lancet.*

CORRESPONDENCE.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

THE HOSPITAL SHIP "RELIEF" — DR. KEEN AS A MEMBER OF THE WAR-INQUIRY COMMISSION — PERSONAL NOTES—HEALTH-BOARD NOTES.

PHILADELPHIA, September 15, 1898.

THE United States hospital ship "Relief" arrived here from Porto Rico last Monday evening having on board 244 sick soldiers. Four who died of typhoid fever on the way were buried at sea, and with this exception all the men stood the voyage remarkably well. An opportunity to inspect the ship was offered as she lay here twenty-four hours, and all who availed themselves of the chance were struck with her cleanliness, and the perfect arrangements which existed for the care of her passengers.

The "Relief" is an entirely new double-deck passenger steamer built at Chester, Pa., in 1896, for passenger traffic between New York and Portland. The decks are divided into four wards—No. 1, occupied by the officers, on the upper deck forward; No. 2, the upper deck, aft; No. 3, the lower deck, forward, and No. 4, the lower deck, aft; these are painted white throughout, with the exception of the floors, which are a chocolate-brown color. On each side of the wards are "double-deck" iron bedsteads, arranged end to end, and extend-

ing the length of the wards, which can accommodate about 250 men comfortably.

Throughout the entire ship the effects of perfect sanitation and good nursing were apparent in the splendid condition of the men and their contentment and enthusiasm for doctors and nurses; "hospital odor" was conspicuous by its absence, a fact largely commented on by veteran army men and it was indeed hard to realize that the "Relief" was a hospital ship so clean and sweet was she from stem to stern.

The hospital staff consisted of Major George H. Torney, U. S. A., who was in command; Major Alfred E. Bradley, U. S. A.; Major Francis Metcalf, U. S. V., and Acting Assistant-Surgeons John Howland, Ernest Schultz, Clarence McWilliams, and Charles E. Morrow. There were three hospital stewards, twenty privates of the hospital corps, ten men, graduate Bellevue nurses, and ten trained women nurses from New York and Philadelphia hospitals, and four acting hospital stewards.

Director Riter and Dr. Hughes met the "Relief" at the pier with ambulances, police patrol wagons, and delivery wagons fitted up with cots, the sick being assigned as follows: Pennsylvania Hospital, 84; Jefferson Hospital, 38; Polyclinic Hospital, 25; Medico-Chirurgical and Presbyterian, 24 each, and the University Hospital, 21.

Great pleasure is felt in Philadelphia that the President should have invited Dr. W. W. Keen to be the medical man of the War-Inquiry Commission. Dr. Keen, though an undergraduate, acted as Assistant Surgeon with the late Dr. Samuel Gross during the Civil War at the Army Hospital, then stationed near the site of the present Philadelphia Hospital, obtaining his diploma at the close of the war. Whether Dr. Keen's duties as Professor of Surgery at Jefferson Medical College and his own practice will prevent his acceptance or not it is impossible to say, but he seems to be an ideal man for the place.

Dr. John Ashhurst, who earlier in the summer was seriously ill at his summer place in Overbrook, is now convalescent.

Dr. Howard F. Hansell has returned from a tour of Canada and Dr. Francis X. Dercum from a tour of Europe.

Dr. Daniel E. Hughes, chief resident physician of the Philadelphia Hospital, has been appointed Acting Assistant-Surgeon, U. S. A., with instructions to look after and arrange for the distribution of returning sick soldiers to the various city hospitals.

Major Edward Martin, Surgeon, U. S. V., returned with the Third Regiment this week.

Henry Trimble, Professor of Analytic Chemistry in the Philadelphia College of Pharmacy and editor-in-chief of the *American Journal of Pharmacy*, died August 24th. Another death of last month was that of Dr. Richard Holmes Townsend, one of the oldest physicians in Philadelphia. He was born in 1817 and after graduating from Jefferson Medical College began practising here, retiring about twenty years ago.

Dr. Henry C. Boenning, State Quarantine Physician, has written Governor Hastings suggesting that, as many sick soldiers will return to this city by water, as many be received at the quarantine station at Marcus' Hook as can be accommodated.

The Board of Health has sent copies of the following resolution to all the hospitals of this city:

Resolved, that the managers of the hospitals in Philadelphia be requested to exercise care in the disinfection of the clothing of patients suffering from infectious diseases, especially cases coming from the soldier camps, and that they be notified that the use of a disinfecting-plant is at their disposal.

OUR FOREIGN LETTER.

[From Our Special Correspondent.]

A RECENT IMPORTANT LEGAL DECISION AS TO EXPERT EVIDENCE—SOME PHASES OF MEDIEVAL MEDICAL PREJUDICE AMONG THE COMMON PEOPLE—A PROTEST AGAINST GERMAN INTERFERENCE WITH THE POSEN CZECHISH MEDICAL CONGRESS—PROFESSOR VON ROSTHORN RESIGNS AT PRAGUE—INTEREST IN ARTIFICIAL ALBUMOSES AND CLINICAL VIEWS AS TO EGG-ALBUMEN.

BERLIN, September 5, 1898.

A RECENT decision of the German Reichsgericht (court of last resort), at Leipzig, in the matter of expert medical testimony seems of special interest to medical men generally. It settles an extremely knotty question, in which doctors have usually been imposed upon while in the witness stand, and for which, so far, they have had no redress. The doctor who wins his suit had been summoned as an ordinary witness and was offered the ordinary fees for such services, which are, of course, extremely small. During the course of his examination under oath, however, he had been asked some questions that had brought out not only his knowledge of the facts of the case, but his medical opinion as to certain of these facts. He answered the questions, but refused to accept ordinary witness fees as a compensation, and sued for medical-expert fees, the amounts of which are definitely settled by German law. The defense was that he had been summoned as an ordinary witness and sworn as such, and that consequently and according to immemorial usage he was entitled only to ordinary witness fees. The lower courts, I believe, decided against him, but the Imperial Court viewed the question from a higher plane of equity than the commonplace of usage, and decided that a medical opinion given by a doctor under oath is expert evidence, and must be paid for as such, even though the doctor has been summoned and sworn as an ordinary witness.

So far it has been the custom to say that the doctor must himself guard against answering questions that included the expression of his medical opinion on the facts in such cases. But this has been manifestly unfair. It throws the burden of maintaining his rights on the witness at a moment when, perhaps, all his presence of mind is required to keep his facts from being twisted into perverse significance by an acute lawyer thoroughly accustomed to cross-examination. Besides, even after the most careful protesting as to the answering of certain direct questions expressive of medical opinion, a sharp cross-examiner is often able to so manage the recital of the

facts and their connections and relations that an inference of medico-legal value quite sufficient to be of use in influencing the jury is secured.

This new decision relieves the doctor of all further need for watchfulness in the matter. He simply answers all questions put to him to the best of his knowledge. If in the opinion of the court his answers include the expression of medical opinion, then his evidence must be paid for as expert medical evidence. Let us hope for some such thoroughly simple and satisfactory and eminently just settlement of the question in America.

Some time ago, in a small town in the Low Countries, there was reported by the newspapers a case of witchbaiting that was thoroughly traditional in its way, and showed that the old spirit is not all dead yet. Two young people in a family had died of consumption. They had reached manhood seemingly in perfect health, and then one after the other had sickened, pined away, and died. A third, a sister was spared for a year or two longer, and then she, too, began to decline. The villagers finally accused an old woman of the village who lived alone on its confines, and who was supposed to have some reason for having a grudge against the family, of having bewitched them, and being the cause of their deaths. They threatened her with all manner of dire evil unless she should raise the blighting charm she was supposed to have fastened upon her victim. Naturally threats availed nothing. Finally, she was dragged before her supposed victim by the villagers, and when she refused to comply with their request to relieve the patient was seriously maltreated. She had to be rescued from her precarious position by the authorities and placed where she could be properly protected.

An analogous story, but still more medieval in character, and strikingly illustrative of the often fearful sufferings that patients suffering from chronic skin diseases had to undergo from an ignorant populace, comes from Vienna. The victim, a middle-aged man, lies at present in the surgical wards of the General Hospital. In one of the outlying districts in the Bukowina (the Bukowina is an especially backward district of the Austrian Empire east of Hungary) the patient had contracted a chronic eczema, which gradually spread until it affected most of his body. The usual home remedies were tried for it, but were of no avail. Finally, the peasants with whom he was living grew alarmed at the persistence and universality of the disease; they began to fear that it might be contagious. They refused to have anything to do with him any longer, and he was compelled to live alone in an old ruined house. A woman brought him some black bread each day, and on this he lived.

Tired of his seclusion and hardships, one day he ventured to crawl out, but was stoned back by the peasants. Another day he crawled to a farmyard near by to get some vegetables. Fearful of being observed, he crawled into the loft of a barn, from which he was ruthlessly thrown out by the owner. Severe injuries were inflicted by this fall, and a clergyman was brought to him, who supplied him with enough money to get to Vienna. At first it was feared that amputation would be necessary, for some of the hemorrhagic exudates in bruised portions of the limbs had become purulent; it is hoped, however, now that recovery from his sad state will be complete and without mutilation, that he can be sent back to his home entirely well, eczema and all. The poor, unfortunate fellow is overjoyed at the prospect, seems to harbor no ill feelings against his persecutors, and is only anxious to be well again. He had practically given up all hope of ever again associating with his fellow-men, and considered himself hopelessly condemned to the solitary life of a leper. One would scarcely expect incidents so characteristically medieval at the end of the Nineteenth Century, but they occur as examples of what old prejudices were capable of, and some of it lurks in much higher circles than the cases given illustrate.

As the result of the German Government forbidding the attendance of foreigners at the Congress of Slavish Naturalists and Physicians at Posen, the sessions announced for this year are, as I said recently, not to be held. The Polish physicians of Cracow and Lemberg, Austrian subjects, have filed a protest with the Austrian Government in the matter. Austria and Germany are allies, and this forbidding by one State of the visit of subjects of the other for scientific purposes is a serious violation of at least the spirit of the alliance between the two countries. Owing to party differences in the Austrian Parliament the Slavs practically hold the balance of power, so that it is not probable that the protest will be allowed to drop until it has at least found its way into some diplomatic interchange of notes in the matter between the two countries.

As another feature of the strained state of affairs between the Czechs and the Germans at Prague, and the consequent unpleasantness between the two universities, with the gradual decrease in attendance at the German University of Prague, comes the announcement of the resignation of Professor Rosthorn, which took effect at the end of the present semester. It is not known whether he will go to Graz or Utrecht. This is the first resignation from the faculty of the German university because of the political difficulties, though there would seem to have been sufficient reason in certain cases before when Czechish sentiment ran so high that there was actually danger of bodily injury being inflicted. The resignation is stigmatized by German journals as an abandonment of the standard in the presence of the enemy, but it scarcely requires the eye of a prophet to foresee that under the circumstances his example must be followed sooner or later by others if the German University is maintained at Prague. The only hope of a really successful revival of the university lies in its removal into territory more German than Prague, where less than 30,000 of the 200,000 inhabitants are Germans.

In the midst of the interest manifested recently in artificial foods, of which albumen is the principal constituent, the present position of the clinicians with regard to egg-albumen, one of the purest forms of natural albumen easily available for general use is a very interesting commentary on the subject. It has changed somewhat from the traditional medical opinion on the subject, I think. I

heard a distinguished clinician, whose great forte is dietetics, remark not long ago that he would as soon advise a patient with a delicate stomach, an invalid, or a convalescent to take raw meat as to take raw eggs. The primary coagulation of the albumen so easily accomplished by means of heat calls for the expenditure of not a little vital energy. It is often not completely accomplished when digestion is weak, and so albumen passes through the digestive tract absolutely unassimilated or is assimilated in a form in which it is unavailable for tissue metabolism, and is excreted by the kidneys in a form of alimentary albuminuria. He considered, therefore, that the traditional prescription of egg-nog, the eggs merely beaten up raw in milk, for invalids is a mistake.

As to the cooking of eggs, he did not think hard-boiled eggs so difficult of digestion as usually thought. The main difficulty is the penetration into the coagulated albumen of sufficient digestive fluids. This could be readily overcome if the albumen were divided by mastication or during its preparation into sufficiently fine particles. In general the specialists in diseases of the stomach and intestines seem to be agreed that eggs are often unsuitable in disturbances of the digestive tract, though it is so usual to recommend them as a bland, unirritating article of diet. When abnormal fermentation is already going on and diarrhea is present, the nitrogenous portions of the albumen are liable to cause further trouble. When constipation exists, and absorption and evacuation is delayed, higher and lower albumoses than those available for tissue metabolism are formed, and add to the toxemia, for the dividing line between wholesome and toxic albumoses is a very narrow one.

Finally, there are some of the specialists in kidney diseases who seem to be of the opinion that just as alimentary glycosuria may lead to genuine diabetes, so alimentary albuminuria may lead to a vitiated habit of kidney epithelium that allows the passage even of a serum albumen. From this to true degeneration and actual nephritis is but a step which has so far not been clinically observed, but which the well known insidiousness of nephritides might easily have permitted to escape notice so far.

REVIEWS.

A System of Practical Medicine. By American Authors. Edited by Alfred Lee Loomis, M.D., Late Professor of Pathology and Practical Medicine in the New York University, and William Gilman Thompson, M.D., Professor of Medicine in the Cornell University Medical College, New York. Volume IV. Philadelphia and New York: Lea Brothers & Company, 1898.

This volume completes this system of medicine, auspiciously begun a year ago. Like its predecessors it bears the stamp of American teaching and research and is marked, possibly, by more originality in these respects than the preceding volumes. The subjects are judiciously arranged and overlapping of ideas is thus, to a large extent, avoided.

The volume deals with the diseases of the nervous system and mind, the vasomotor and trophic disorders, osteomalacia, rachitis, rheumatism and its allies, obesity, scurvy, and Addison's disease. Among the contributors are Drs. M. Allen Starr, F. G. Finley, Edward D. Fisher, C. A. Herter, Charles L. Dana, J. T. Eskridge, F. X. Dercum, Charles K. Mills, Wharton Sinkler, and W. Gilman Thompson (whose paper on "Seasickness" is included among functional nervous disorders). The diseases of the mind are discussed by Drs. William B. Pritchard, Willis E. Ford, William Noyes, Landon Carter Gray, Pearce Bailey, and Morton Prince. The diseases of the muscles are treated by Dr. Finley.

Dr. W. Gilman Thompson writes on rheumatism, gonorrheal arthritis, arthritis deformans, gout, lithemia, obesity, and scurvy. Dr. Finley contributes an article on osteomalacia, Dr. A. Jacobi one on rachitis, and Dr. Coleman writes on Addison's disease.

Since the views of most of these gentlemen on the various subjects assigned to them are well known, it has seemed wisest to the reviewer simply to mention the topics without discussing them. A system conceived on the lines of this one best achieves its purpose through a careful selection of authors and little editing. This system is a series of monographs by able teachers and writers on American medicine, is modern in every sense of that ill-used word, is broad and comprehensive, and represents most completely the present status of medicine in the United States. It is one of the few books of which a reviewer can honestly say that "it should be in every physician's library and in the hand of every medical student."

Handbook for the Hospital Corps of the United States Army and State Military Forces. By Charles Smart, M.D., Deputy Surgeon-General, United States Army. New York: William Wood & Co., 1898.

This short but complete treatise, comprising as it does the general management of post and field-hospitals, sanitary care of camps, the essentials of anatomy and physiology, as well as a more detailed course of instruction in special duties in emergencies of military medicine, bears the stamp of approval of the Surgeon-General of the Army. As a text-book it will materially assist those members of the corps who wish to raise their qualifications to the higher standard required of them than of the detailed men previously on duty with the Medical Department. The duties of stewards and acting-stewards, varied as they are, require thorough familiarity with military discipline and drill, nursing, first-aid, cooking, pharmacy, clerical work, field work, and the care and management of animals. These duties are, under the direction of the surgeon, to look after and distribute hospital stores and supplies, to care for the hospital property, to compound and administer medicines, to supervise the preparation and serving of food, to maintain discipline in the hospital and watch over its general police, to prepare the hospital reports and returns, to supervise the duties of the hospital corps in hospital and in the field, and to per-

form such other duties connected with their positions as may, by proper authority, be required of them. While the special instruction of the order lies in these matters, and the higher education of the studies must be directed by the surgeon, the volume under review may well supplement this practical training. Besides those mentioned, the subjects of the sanitary care of camps, construction, drainage, water-supply, and ventilation of wards, and executive duties are discussed. There are well-illustrated chapters on fractures and dislocations, asphyxiation, poisoning, hemorrhage, and insensibility, with some concluding remarks on the elements of cookery.

HAY-FEVER AND ITS SUCCESSFUL TREATMENT. By W. C. HOLLOPETER, A.M., M.D., Clinical Professor of Pediatrics in the Medico-Chirurgical College of Philadelphia; Physician to the Methodist-Episcopal Hospital. Philadelphia: P. Blakiston's Son & Co., 1898.

THE nature of the "periodic influenzas" and the rationale of their successful treatment have been the subjects of unnumbered treatises, and so-called specifics have been as numerous as the theories of causation. The short treatise under consideration embodies the suggestions of a practitioner who claims remarkable and uniform success with a simple therapeutic procedure; this consists in thorough scrubbing of the entire nasal mucous membrane with an alkalin solution (Dobell's), and the subsequent application of a mild solution of menthol in albolene. This rigidly simple form of treatment is said to have given relief to over 200 patients. Undoubtedly the author is to be congratulated upon such results, no less than upon the interesting chapters on the history of hay-fever under its multitudinous *noms de guerre*, and those on etiology and the theories of its pathogenesis. The thorough clinical study of this affection and the exhaustive review of the literature related to it, in a brief and succinct form, give us the essentials of the subject most attractively.

As much can not, unfortunately, be said for such paragraphs as the following: "Some years ago, in the dispensary, I made a somewhat prolonged study of the nasal secretion of young children waiting for treatment for various simple disorders, and it was found that, although a child might have no constitutional indication of the disease whatever, often the bacteria of diphtheria, *scarlet fever*, *measles*, *whooping-cough*, or tuberculosis were present in the nasal secretions."

Details of the "prolonged bacteriological study" by which specific micro-organisms of such importance were identified and isolated, will be impatiently awaited by pathologists, who will, undoubtedly, give a warm welcome to "bacillus scarlatinæ" (Hollopeter) and to "micrococcus putationis (Hollopeter) of measles."

ELECTRICITY IN THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE NOSE, THROAT, AND EAR. With 161 Illustrations. By W. SCHEPPEGRELL, A.M., M.D., ex-Vice-President American Laryngological, Rhinological, and Otological Society; Member American Academy of Medicine, etc. New York: G. P. Putnam's Sons, 1898.

THIS is a most complete and able presentation of the entire subject of electrotherapeutics in rhinology, laryngology, and otology by an author of acknowledged standing, whose rich personal experience is here supplemented by a thorough review of the literature. The result of this systematic management of the material is to present, not only clear and succinct theoretical considerations, but simple, though complete, practical methods which must form a valuable aid to the student or practitioner in the application of electricity in these branches of medicine, as well as a convenient and useful book of reference for the busy specialist.

Among the most valuable chapters are those on the general principles of electrophysics and electrophysiology, definition of units of measurement and modes of action, generation of current, arrangement of cells and induced currents. The subject of examination with electric light of the accessory sinuses (transillumination) is treated with special thoroughness. The scope of the work may, perhaps, be best indicated by a simple citation of a number of important subdivisions: electrocautery, electrolysis, cataphoresis, electromagnetic appliances, microphone, massage in ololaryngology, intranasal vibrators, pneumomassage of ear, and a complete study of the use of the X-rays.

AN AMERICAN TEXT-BOOK OF GENITO-URINARY DISEASES AND DISEASES OF THE SKIN. Edited by L. BOLTON BANGS, M.D., Consulting Surgeon to St. Luke's Hospital; Visiting Genito-Urinary Surgeon to St. Mark's Hospital, New York, and W. A. HARDAWAY, A.M., M.D., Professor of Diseases of the Skin and Syphilis, Missouri Medical College, St. Louis. Illustrated. Philadelphia: W. B. Saunders, 1898.

THIS volume, of ponderous size, is uniform with the other "American text-books" issued by the same publisher. There are forty-seven contributors, most of whose names are familiar as specialists in one or the other of the two departments of medicine with which the book deals. The work, as a whole, shows evidence of careful editing, and may be put down as a very excellent *résumé* of the subjects treated. Here and there a few grammatical errors assert themselves, and there is a certain unevenness which is readily accounted for by the large number of writers.

Without wishing to discriminate, we point out the excellence of the articles on "Diseases of the Male Urethra" (Dr. Lydston), "Diseases of the Prostate" (Drs. White and Wood), "Diseases of the Ureter" (Dr. Fenger), and "Hereditary Syphilis" (Dr. Jacobi). The original pathologic work of Dr. Pollitzer on the xanthomata, which he finds to contain degenerated muscle-fibers, is significant. Dr. Tuholske's discussion of the tropical skin diseases is excellently done. It is almost impossible to go further into this huge work without taking up too much space. The book represents accepted teachings, and will undoubtedly meet the kindly fate it deserves. It is splendidly illustrated with engravings and colored plates, and is well printed on good paper. We could almost wish that the publisher had issued it in two volumes.

TRANSACTIONS OF THE AMERICAN PEDIATRIC SOCIETY. Ninth session, held in Washington, D. C., May 4, 5, and 6, 1897. Edited by FLOYD M. CRANDALL, M.D. Vol. IX. Reprinted from the *Archives of Pediatrics*, 1897.

THIS number of the transactions contains so many valuable articles that but brief reference can be made to some of them here. Of special interest is a paper by Adams on the "Evolution of Pediatric Literature in the United States." There are two contributions from the pen of the late O'Dwyer, one on "Congenital Stenosis of the Larynx," and one on "Retained Intubation Tubes." Both are very timely. Koplik gives a short account of the method he uses for the rapid bacteriological diagnosis of diphtheria, a method which is certainly deserving of further trials. Jacobi describes a very rare case of sarcoma of the cutis of the newly born, with a full bibliography. Huber details a case of goiter cured by thyroid extract, and Kerley reports a cure by the same remedy in a case of exophthalmic goiter. The volume closes with a study of abscess of the brain by Holt.

INFLAMMATION OF THE BLADDER AND URINARY FEVER. By C. MANSELL MOULIN, M.D. (Oxon), F.R.C.S., Surgeon and Lecturer on Surgery at the London Hospital. Philadelphia: Blakiston, Son & Co., 1898.

THIS is a brochure based largely on clinical observations, supporting the laboratory experiences of Rovsing and Melchior that the mere introduction of pus-producing organisms into a healthy bladder does not suffice to produce cystitis. The bacillus coli communis was found to be the cause of most of the cystitis. The author is skeptical as to gonorrheal cystitis being caused sorely by the gonococcus; he regards it as a mixed infection. Mr. Moulin holds that more frequently the infection in tuberculous cystitis is by way of the lymphatics descending along the ureter and not secondary to a descending ureteritis infected from a diseased kidney. With propriety the author emphasizes the disadvantage of the Trendelenburg position when operating on old men afflicted with emphysema.

SKIN DISEASES OF CHILDREN. By GEORGE HENRY FOX, A.M., M.D., Clinical Professor of Diseases of the Skin, Columbia University, New York. New York: William Wood & Co., 1897.

THIS work is a reproduction, with some additions, of a series of articles on skin diseases that have already been published in the *American Journal of Obstetrics*. It is difficult to understand what purpose a book of this character can subserve. While there are diseases of the skin that are more common in childhood than in adult life, there are virtually none that are wholly peculiar to this age. On the other hand, the small scale on which the profuse illustrations are carried out, renders them almost useless for diagnostic purposes. The character of the text may be judged from the fact that the entire subject of lupus and the tuberculides is treated in ninety-five lines of type.

THERAPEUTIC HINTS.

For Mucous Patches.—KIRSTEIN has found a five-per-cent. solution of corrosive sublimate very efficacious for swabbing syphilitic patches of the mouth and pharynx, causing their disappearance more rapidly than any of the drugs commonly employed for the purpose.

Treatment of Enteroptosis in Children.—In order to overcome the constipation accompanying this condition, BOAS replaces the purgative or alkaline mineral waters generally prescribed, and which he has found harmful, by enemata and by drugs which tend to disinfect and stimulate the intestines. Of the following formulæ he gives preference to that containing resorcin:

1. ℞ Bismuthi salicylat. . . gr. v
   Ext. nucis vomicæ . . gr. ½–gr. i.

M. Ft. chart No. XX. Sig. One powder three times a day after eating.

2. ℞ Resorcin . . . . gr. xxx
   Ext. nucis vomicæ . . . gr. iiss
   Aq. chloroformi . . . ℥ iv
   Aq. menthæ pip.. . . . ℥ i.

M. Sig. Two teaspoonfuls three times a day after eating.

3. ℞ Bismuthi salicylat. } aa . . gr. lxxv.
   Beta-naphthol }

M. Ft. chart No. XXX. Sig. One powder three times a day after eating.

Formula for Quinin in Solution.—The prescribed dose of the following mixture is added to a wineglass of water in which five grains of bicarbonate of soda have been dissolved, and is drank during effervescence. The taste of the medicine thus given is not unpleasant, and it is well borne by the stomach:

℞ Quininæ sulphat. . . . . ℥ i
   Ac. citrici . . . . . ℥ iiss
   Syr. cort. aurantii } aa . . . gr. xv
   Syr. simplicis }
   Aq. dest. . . . q.s.ad ℥ v.

M. Sig. Ten drops to be given as directed.

Administration of Antipyrin and Salicylate of Soda.—BRICEMORET discourages the administration of these drugs in capsules, since in concentrated form they often cause gastric pain and irritation. Antipyrin may be given advantageously in a glass of Vichy or seltzer, with or without the addition of a little citric acid.

Salicylate of soda should be dissolved in at least twenty times its weight of water. Bricemoret prescribes 90 grains of the drug to a mixture of 2½ ounces, each of water and syrup of sweet orange peel, and 1 ounce of curaçoa. Each dose of this mixture is given in half a glass of effervescent water.

Ointment for Psoriasis.—

℞ Ichthyol }
   Ac. salicylici } aa . . . gr. xlv
   Ac. pyrogallici }
   Ol. olivæ } aa . . . . ℥ iiss.
   Lanolini }

M. Ft. ungt. Sig. External use.—*Richter.*

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXXIII. NEW YORK, SATURDAY, SEPTEMBER 24, 1898. NO. 13.

ORIGINAL ARTICLES.

ANOTHER VIEW OF CONSERVATIVE SURGERY OF THE TUBES AND OVARIES.[1]

BY HENRY C. COE, M.D.,
OF NEW YORK.

THE history of gynecological surgery in America during the past fifteen years has been marked by a series of radical changes which, to a foreign observer, must doubtless seem not a little puzzling. Three or four years have often sufficed to effect an entire transformation of the opinions and practice of our representative surgeons. The reproach that we have been carried to and fro with every wind of doctrine has not always been undeserved. You will recall how promptly we adopted the views of Lawson Tait, the operation to which his name is attached being performed hundreds of times within a few months after it was introduced into this country. Every foreign surgeon of note who has visited our shores has left his impress upon us, and has raised up a host of imitators, no matter how radical may have been his methods. From one extreme to another the pendulum has swiftly vibrated, rarely stopping in the middle of its swing. With all these changes in surgical methods this Society has been intimately associated. The hard-fought battles in which we have engaged, honest and manly, and without any tinge of bitterness, have not been in vain. A most commendable trait in our Fellows has been their readiness to correct their errors by the light of experience. A review of our *Transactions* will convince the impartial reader that, although we have kept fully abreast of modern methods, even the most radical, some of our best work has been in the line of conservative surgery. I need only to allude to the valuable papers in this line by eminent authors, some of whom will meet with us no more.

I approach this subject in a spirit far from pessimistic, feeling that, as yet, we are probably only groping after the truth. Ten or twenty years from now others will see clearly what we now see "through a glass darkly." We are all aiming at one end, and if at times we seem to hold contrary views, so much the better; the truth will sooner appear.

No man has a greater sympathy with the conservative movement in pelvic surgery than I; in fact, my position was once exceedingly unpopular. When one recalls how a few years ago at the operating-table an ovary was drawn out of the abdominal cavity, and when found to be a little larger than normal, with a few cysts on its surface, it was called "cystic," or, if it had undergone normal atrophy, was pronounced to be "cirrhotic"—and in either case was promptly removed—one feels that there is great cause for thankfulness that we have learned better. If such an ovary was adherent, so much the more reason was there for removing it, without much regard to its macroscopic appearance. The familiar diagnosis "catarrhal salpingitis" was not infrequently a sufficient excuse for extirpating a tube which was possibly the seat of ordinary menstrual congestion. Most of us must plead guilty to such errors in the past, and we rejoice that this kind of surgery has been banished, never to return.

It is my purpose to inquire briefly whether we are not in some danger of going to the other extreme. The word "conservatism" is often on our lips; in fact, we have come to use it somewhat loosely. Baldy expresses the views of not a few when he says: "I have no objection to conservatism when I know what it means." It is not necessary to review the literature of this subject, with which you are all familiar, notably the papers of our esteemed Fellows. Now that we have had further experience with the matter it is not improper to ask it the results of conservative surgery of the adnexa are all that they have been represented to be. In the early, or what may be called the statistical, stage of abdominal surgery the test of the successful operator was simply recovery from the operation. Now, it is the relief of symptoms, or the restoration of impaired functions. In other words, we look to ultimate rather than to immediate results. This is an essential difference which, in itself, marks the progress of our art; theory has given place to practice. Once the death of the patient was a proof of failure; now, the persistence of pain and other distressing symptoms, for the relief of which the operation was performed, are evidence of some error in diagnosis or technic.

I do not intend to waste the time of this intelligent audience in defining what we understand by conservative surgery of the tubes and ovaries. As I understand it, it consists essentially in the preservation of a sufficient amount of ovarian tissue to con-

[1] Read at the Twenty-third Annual Meeting of the American Gynecological Society, held at Boston, May 24, 25, and 26, 1898.

tinue the functions of menstruation and ovulation, and, at the same time, by maintaining the patency of the Fallopian tube, to render impregnation possible. The question of priority in this field, as in every other, is a matter of secondary importance. Martin admits that Spencer Wells punctured dropsical follicles as far back as 1864, while I recall that this was a common practice with Dr. T. G. Thomas many years ago. The work of Martin, Schroeder, and Pozzi abroad, and of Polk, A. P. Dudley, and many others in this country, is well known.

What, may we ask, is the true motive for conservative work in this direction? The answer may be given from the standpoint of the patient, or from that of the surgeon. A young woman naturally shrinks from the thought of losing both her ovaries. If she is unmarried, the fear that castration may lead to essential changes, physical and mental, is one which we can no longer regard as purely sentimental. The belief that profound disturbances commonly follow this operation is too deeply rooted in the minds of the laity to admit of argument. I need only refer to the last classical paper of our lamented Goodell, whose dictum in regard to the advisability of preserving the function of menstruation whenever possible has been accepted by all thoughtful men. If a woman is married, but has never borne children, the hope of future pregnancy is often so strong that she is willing to endure any amount of suffering rather than to be relieved at the cost of a sacrifice of the prospects of maternity.

For the surgeon the problem is one based upon his previous experience with the ultimate results of entire removal of the adnexa. The disturbances attending the artificial climacteric are so familiar to us that there is nó one present who does not recall cases in which he honestly believes that the patient would have been better off if he had not operated at all.

Granting that the severity of these phenomena, especially the relative frequency of insanity following castration, have undoubtedly been exaggerated, the fact still remains, as Goodell has so emphatically stated, that castration is often followed by deplorable consequences. We are glad to think that these bitter words which he wrote five years ago are no longer true: "The removal of the ovaries has developed into a busy industry, by which in city and in country, very many women have been, and are being, mutilated, both needlessly and on the slightest provocation." By preserving the function of menstruation we certainly avoid many of these unpleasant sequelæ. As regards the question of future pregnancy, the surgeon is naturally more indifferent than the patient. From his standpoint, the removal of diseased organs and the relief of distressing symptoms is the great desideratum. If pregnancy may occur later with perfect safety to the patient, so much the better. He cannot, however, avoid being strongly biased by her earnest wishes in the matter.

You are familiar with the technic of the operation in question. We all know how to puncture or to excise small cysts of the ovary, to remove portions of the gland which present macroscopic evidences of disease, to break up adhesions, to catheterize and to resect tubes, to perform "salpingopexie," as Pozzi calls it—that is, to attach the ovary or a portion of it to the stump of the resected tube. Some of us have even gone so far as to preserve portions of pus-tubes, of purulent ovaries, of dermoid cysts, or of larger cysto-adenomata, which seemed to contain normal stroma. The vital question is, in performing these operations, Are we certain that we always accomplish the results aimed at? Do we relieve pain, ward off immediate or future danger from the patient, preserve the functions of menstruation and ovulation, and cure sterility, or, at least, favor conception in a woman who would not otherwise have become pregnant except for our interference? These are difficult questions to answer; at least our data are not sufficiently numerous to justify us in answering them dogmatically. It is a mark of our fallible nature that we are prone to see what we wish to see. The enthusiastic advocate of a certain method of overcoming stenosis of the cervical canal reports a long list of cases in which conception followed his peculiar method of operation, or the insertion of a specially devised stem pessary. But how many of these patients would have become pregnant if no operation had been performed?

I need not remind you, with your wide experience, of the singular manner in which the ovaries continue to discharge their functions and conception takes place under conditions which, to the human mind, seem impossible. Who has not seen menstruation, in every respect regular, occurring in women with cancer of both ovaries, with double ovarian abscesses, with large cystomata, when the most careful search fails to disclose any macroscopic evidences of normal stroma? Who has not observed pregnancy in women with advanced carcinoma of the cervix uteri? We cannot explain these things. They only show how often Nature works successfully under the most unfavorable conditions. The idea is a fascinating one that we can deal with abnormal conditions in the pelvis just as a skilful jeweler repairs a damaged watch; that, by removing a few adhesions here, excising a little tissue there, restoring the patency of an occluded canal, we can read-

just the delicate mechanism, and, as it were, restore lost functions.

The simplest form of conservative treatment consists in separating the adhesions around tubes and ovaries which present few if any macroscopic evidences of disease. This is, undoubtedly, a most valuable procedure, since these adhesions are often the cause of abdominal pains entirely out of proportion to the local lesion. My experience is certainly not different from that of my hearers when I say that, while many of these patients have been greatly benefitted as regards the relief of both dysmenorrhea and of persistent pains, the adhesions have often reformed. It is safe to say that up to the present time no method of absolutely preventing the reformation of such adhesions has yet been discovered. They occur after the simplest aseptic celiotomies; in fact, it is the rule to meet with them in secondary operations. Although I have practised the method frequently, I have always regarded the mere separation of such adhesions by vaginal section as an operation of no permanent value, especially when the ovaries were prolapsed in Douglas' pouch. They naturally tend to resume their former position, and to become fixed by fresh adhesions. It has seemed to me much more rational to employ the abdominal route, and, after separating an adherent ovary, to suture it near the pelvic brim. Conception has undoubtedly followed this simple procedure, but one can instance quite as many cases in which the patient became pregnant with one or both ovaries buried in adhesions.

A further step in the direction of conservatism is the puncture or excision of small cysts on the surface of the ovary. This seems to carry us back to the early days, when we used to remove such ovaries simply on suspicion. Surely, we have learned a little pathology since then; among other things, the fact that such cystic ovaries are rarely the forerunners of large cysto-adenomata, and that dropsical follicles, the size of marbles, may still contain healthy ova. Pozzi has written much on the subject of igni-puncture of sclerotic ovaries. But, in spite of the amount of honest work which has been expended on the histology of the ovary, we are not yet in a position to define strictly the limits between normal and pathologic cirrhosis in the stroma. Doubtless in the hasty inspection at the operating-table corpora fibrosa are frequently mistaken for inflammatory thickening. This being the case, how do we know, when we puncture or excise a cyst, or an area of supposed cicatricial tissue in the ovary, that we are really doing the patient a service by removing a pathologic condition? That she becomes pregnant afterward is hardly a proof that the operation was a direct cause of pregnancy. Invest the procedure with high-sounding terms as we may, it still remains an experimental attempt to remove what we only suspect may be a cause of future trouble. Curettement is usually performed as a preliminary step, so that in successful cases there must always be considerable doubt as to whether this or the abdominal operation was the true factor in overcoming sterility.

It has been assumed by those who have written on this subject that the risks in ovarian and tubal resection are practically *nil*, but the writer is personally cognizant of a case in the practice of an eminent surgeon in which secondary hemorrhage followed the excision of a follicular cyst per vaginam. It was necessary to open the patient's abdomen several hours after the operation in order to check the bleeding, and her escape from death was little short of miraculous. In the case of small purulent and dermoid cysts of the ovary, excision of the diseased portions and suture of the raw surfaces is certainly not entirely free from danger, since one cannot be absolutely certain that septic foci are not left behind. Délanger, one of the enthusiastic followers of Pozzi, admits that it is practically impossible to remove all the diseased tissue, and that we can only hope to reduce it to a minimum. Pozzi's theory that the action of the cautery causes the absorption of sclerotic tissue is largely theoretical; in fact, he limits the application of this method to what he calls "microcystic degeneration, and diffuse or edematous oöphoritis." Landau calls attention to the well-known anatomic fact that atresia following gonorrheal salpingitis is really a conservative process of Nature, and asks, quite pertinently, why, then, we should open up such tubes and expose the patient to the risk of a fresh attack of perisalpingitis, or even of death from infection? It is an elementary fact that unless a bacteriologic examination is made during the progress of the operation we are not in a position to affirm with any degree of positiveness concerning the infectious character of the fluid contained within an occluded tube. Pozzi not only asserts that fatal cases of sepsis have been reported after resection of the tubes, but believes that the reason why more women do not die is presumably due to the fact that the distal ends of the tubes again become agglutinated, or else are surrounded by fresh adhesions.

In my experience, which now includes more than thirty cases (nearly all within the past three years), the immediate ill-effects of the operation have not been such as to prejudice me against it on the ground of the added risk. The question as to the subsequent condition of the patient is more important. In all the cases in which I have operated it has been for the purpose of

relieving severe pain and dysmenorrhea, and removing adnexa which were hopelessly diseased, or were the seat of small neoplasms. Most of these patients have been kept under observation, and with some of them it has been necessary to perform a secondary operation. This experience has been supplemented by secondary celiotomies performed upon patients who had previously undergone conservative operations at the hands of other surgeons. Doubtless this experience is not an uncommon one. As regards relief of symptoms, the following points have been noticed:

Relief of Pain.—In several instances in which dense adhesions were separated, the tube and ovary on one side were removed, and on the opposite side were resected and secured as nearly as possible in their normal position, the results were not as satisfactory as could be wished. The adhesions evidently reformed, the patient suffered from practically the same pain as before, and but slight difference was noted as regards dysmenorrhea. In all these cases the convalescence was afebrile, no drainage was employed, and, with few exceptions, absorbable sutures and ligatures were used. An examination of several of these patients at intervals of from three to twelve months after operation showed the presence of a painful induration at the site of the resected ovary and tube. In only one instance, thus far, has pregnancy occurred and is now progressing normally, although the patient sufferred from considerable local pain and menorrhagia for several months after the operation.

Menstruation. — The variations in menstruation noted when a portion of the ovary, including from one-fourth to two-thirds of the normal stroma, was left behind, have been many. In two instances menstruation, after returning slightly two or three times, ceased entirely. In other cases the flow was slight and irregular, but persistent; in two more profuse than before, and attended by pain several days before and during the flow. In my experience the relief of dysmenorrhea has been gradual rather than immediate.

This result is hardly surprising in view of the fact that the portion of the ovary which remains has been known to atrophy entirely, or to undergo cystic degeneration. Cases in which a secondary operation has been necessary for the removal of a cystoma, developing from the remains of the stroma, or of a tubo-ovarian cyst, have been reported by Martin and others. I showed such a specimen at a recent meeting of the Obstetrical Society. Chrobak's objection, that there is great danger of ectopic pregnancy occurring in a resected tube has, fortunately, proved to be a theoretical one so far as I am aware.

The following brief notes of cases will serve to illustrate some of the points which have been made:

Case I.—This illustrates the danger of attempting to preserve an apparently healthy ovary when the opposite one is the seat of papilloma.

The patient was a young woman, aged twenty-five years, who was engaged to be married. Her physician's attention was called to her large abdomen and rapidly declining health. On examination I found a considerable ascitic accumulation; there was a small mass at the site of the right ovary. Explorative incision; several pints of ascitic fluid evacuated. The right ovary was moderately enlarged with a few papillomatous masses on its surface. No adhesions. A few papillomata the size of millet seeds were seen on the pelvic peritoneum. The opposite ovary was carefully examined, and to all appearances was perfectly normal. In view of the patient's circumstances it was judged wiser not to remove it. She recovered, married a few months later, and remained well for a year, when she again developed ascites. A second abdominal section was performed and the papillomatous left ovary was removed. She recovered, and is well at the expiration of a year.

It may be objected that this was an improper case for conservatism; and yet, judging from the condition of the opposite ovary and tube, it seemed justifiable, under the circumstances, to spare them.

Case II.—Married woman, aged twenty-six years; separated from her husband. Suffered from constant pain and dysmenorrhea. History of recurrent attacks of pelvic peritonitis, presumably of gonorrheal origin. Uterus in normal position. Both ovaries and tubes considerably enlarged, very tender, and fixed by adhesions. The patient was desirous of marrying again, and anxious that one ovary should be saved, if possible.

Vaginal section. Adhesions easily broken down. Pyosalpinx and small ovarian cyst on the left side tied off with catgut. On the right side was a cystic ovary and a large and thickened tube, the distal end being occluded. One-half the ovary was resected, also the outer third of the tube; the tube was catheterized and the mucous membrane stitched to the peritoneum in the usual manner. Convalescence afebrile. The patient's condition after operation instead of being improved was so much aggravated that, finding local treatment, electricity, etc., of no avail, I proposed abdominal section, especially as a mass the size of an orange had developed at the site of the remaining ovary. The abdomen was opened a year after the first operation. No trace of the left ovary and tube and few adhesions. On the right side was an ovarian cyst, the size of a small orange, to the surface of which was adherent the resected tube, with its end occluded. The specimen was carefully examined, and it was found that the cyst had developed from the remains of the ovary, a small portion of the stroma being still visible. The tumor was thoroughly removed and the tube ex-

sected. Convalescence afebrile. Patient's condition after operation worse than before. She menstruated more or less regularly, using twenty-four napkins, though previously the flow had been rather scanty. A year has elapsed since the second operation. She writes me within a week that although her general health is better she has practically the same pain as before and flows more profusely than ever, so I regret exceedingly that I did not remove the uterus.

CASE III.—Conservative operation. Patient aged twenty-four years; married three years; never pregnant; anxious to have a child. Sharp anteflexion of the uterus, with stenosis. To the left of the uterus a cyst the size of a large orange. Divulsion and curettement. Broad ligament cyst on the left side removed with the ovary, which was atrophied. On the right side was a cystic ovary the size of an English walnut; small hydrosalpinx. Numerous adhesions were separated, half the ovary excised and sutured with catgut, the occluded tube opened, catheterized, and the mucous membrane stitched to the peritoneum. The ovary and tube were secured near the upper border of the right broad ligament.

Convalescence afebrile. Patient has now been under observation for six months. She has persistent pain, so that she can take but little exercise, although formerly she could ride a bicycle. Examination shows a tender mass at the site of the right ovary. Dysmenorrhea the same as before. Patient somewhat relieved by the use of ichthyol tampons and electricity, but regrets that she did not have both ovaries removed.

CASE IV.—Mrs. Q., aged thirty-five years; married eight years; never pregnant. A year before one ovary and a small fibroid were removed by the late Dr. Lusk. Patient suffered from persistent pain, dysmenorrhea, and menorrhagia. Examination showed the uterus small and in normal position. Douglas' pouch was occupied by an enlarged, tender ovary, firmly adherent.

Vaginal section. Cystic ovary was drawn down, and was supposed to have been entirely removed with the tube.

Afebrile convalesence. Patient continued to have persistent pain. Had profuse, irregular hemorrhages, which rendered her practically an invalid. She desired to have her uterus removed. It was done by abdominal section six months after the vaginal operation. Numerous pelvic adhesions were broken up. There was no trace of the left ovary or tube; the right tube had been entirely removed. At the site of the right ovary was a cyst the size of an English walnut, which had apparently developed from a small portion of the stroma which had been included in the ligature. Convalescence normal. Patient discharged, cured.

CASE V.—Illustrating the fact that menstruation does not always continue if a portion of the heathy ovary is left.

Married woman, aged thirty years; one child. Operation on account of persistent pain and dysmenorrhea; cystic tumor the size of a grape-fruit to the left of the uterus. This was found to be a simple cyst of the broad ligament, with atrophy of the ovary. Tube normal. Cyst and ovary were removed. On the right side was found a large hydrosalpinx, which was removed, and an ovary, the seat of general cystic degeneration. In order to preserve the function of menstruation, about one-third of this ovary was left, including stroma which was apparently healthy and contained normal follicles. Afebrile convalescence. Six months have elapsed since the operation. The patient has not menstruated, and has the usual climacteric disturbances following castration.

CASE VI.—Persistent menstruation following supposed removal of both ovaries and tubes.

Married woman, aged twenty-seven years; one child. Operation on account of cystic degeneration of both ovaries, with adhesions, causing constant pain and dysmenorrhea. Unrelieved by a long course of local treatment, electricity, etc.

Operation uncomplicated; convalescence afebrile; silk ligatures used.

In this case a careful attempt was made to remove all the ovarian tissue on both sides. Menstruation has persisted, at irregular intervals, for five or six years, attended by more pain than before. An induration the size of a marble can be felt at the site of the stump on the left side. Patient has not been relieved by local treatment, but refuses a second operation.

In this case it is fair to assume that a small portion of ovarian stroma was included in the ligature, around which an inflammatory exudate formed.

CASE VII.—Repeated abdominal section in the same patient.

Unmarried woman, aged twenty-four years. Original trouble probably gonorrheal. Her right tube and ovary were removed by a colleague a year before. At this time the adnexa on the left side were supposed to be normal, and were simply freed from adhesions. The patient was unrelieved, and a year later came under my care. I found a mass on the left side which was extremely tender. She suffered from dysmenorrhea and profuse menstruation. On opening the abdomen I found an enlarged, generally diseased ovary, and a thickened and occluded tube buried in adhesions. No trace of the opposite tube and ovary. Diseased organs were thoroughly removed.

Convalescence afebrile. Patient was not relieved. She continued to menstruate irregularly, losing so much blood that she became quite reduced. Curettement was performed twice, without benefit. Uterus small, and contained no granulations. There remained a small induration at the site of the left stump, which was extremely tender, so that a year later I reopened the abdomen, excised the induration, which was merely an encysted ligature, breaking up slight intestinal adhesions. I found a small, atrophied uterus, which I ought to have removed, but did not. The patient remained

absolutely unrelieved, flowing profusely nearly all the time. She would have submitted to a fourth operation for extirpation of the uterus, but, unfortunately, acute intestinal obstruction occurred from which she died unrelieved.

CASE VIII. — This patient, a young married woman, who is still under my observation, was operated upon by the late Dr. Battey seven years ago. In a personal letter he stated positively that he had removed both ovaries and tubes, which were thoroughly degenerated. It is possible that a small portion of ovarian stroma remained in one of the ligatures. At any rate the patient has menstruated regularly ever since, though the flow has been scanty. The uterus is atrophied, as well as the vagina. In spite of her regular menstrual flow, the patient has had considerable local pain since the operation, and many of the nervous phenomena attending the climacteric, which have been more marked during the past year. Although she has never had children, the condition of the uterus is such as to destroy any prospects of maternity, even if this were desired.

These are simply a few cases which illustrate the unfavorable side of this question. In these cases, as well as in several others which I might cite, the element of pain and menstrual irregularity in the mind of the patient far outweighs the advantages accruing from persistence of the function, and possible hope of future maternity. This is an important practical point, because those who have written so strongly in favor of conservative operations have laid most stress on the importance of preserving the function of ovulation with the object of favoring conception.

In my experience, the first thing which women desire is to be relieved of the pain for which they have undergone the operation. When they do not find the promised relief, the question of conception becomes of secondary importance. In the case of young women who expect to be married, or of those who have been married only two or three years, this question assumes far more importance than with those who have been married for several years, or who have already borne one or more children. Here the principal object of the operation is, it is assumed, to relieve pain and to restore health. [Just after writing these lines the truth of this statement was emphasized by a case in which I sought to preserve a portion of a diseased ovary after removing the opposite one. The family physician who was present said: "Although the patient earnestly desires to have a child, unless you can promise positively that she will be cured I take the responsibility of urging that the ovary be entirely removed, as I am sure that she would prefer it."]

I would not be understood as deprecating the practice of conservative surgery; in fact, I have consistently followed the plan in every case in which I thought portions of an organ could be saved without detriment to the patient, and have had satisfactory results. But I have merely sought to emphasize the fact that the immediate and remote results of conservative treatment are not always as brilliant as we have been led to believe.

In dealing with the question of sterility we are confronted with a problem which is by no means a purely mechanical one. In spite of the vast amount of literature on the subject, it being a favorite theme with French writers, we are still as far from understanding the occult reasons for this condition as we ever were; nor does it appear that we are yet in a position to give any more positive promises, as the result of our treatment by the abdominal route, than when we were limited to procedures for overcoming stenosis of the cervical canal. From our standpoint our chief motive in endeavoring to preserve the function of menstruation, in operations upon the pelvic organs, must still be the one insisted upon by Goodell, namely, to eliminate the mental and physical disturbances which attend the artificial climacteric in women who are still in the prime of life.

In this paper I have confined myself entirely to the subject of conservative surgery of the adnexa, believing that to discuss the question of myomectomy *versus* hysterectomy would carry me beyond the limits of this discussion. It is a fruitful subject and has been well handled in the Society time and again.

Personally, I am entirely in sympathy with every effort to preserve the uterus whenever this is possible. I am glad that we have not been entirely overwhelmed by the wave of enthusiasm which attended the visits of our distinguished French confrères, and that we are coming back to our former position, that the wholesale sacrifice of uteri is not in the direction of good surgery. But to enter into this question would be to renew an old fight. Much can be said *pro* and *con*. Doubtless we have all removed uteri which we might have saved, and, on the other hand, we have preserved organs which we were obliged to extirpate at a second operation. It is easier to criticise in the study than it is to decide correctly at the operating-table. Our esteemed Fellow, Dr. Baldy, in his usual epigrammatic style, sums up the whole matter when he says that "true conservatism is what is for the best interests of the patient."

In order to facilitate discussion the following conclusions are submitted:

1. Conservative operations on the adnexa are to be commended in properly selected cases. The surgeon should avoid, on the one hand, tampering with ovaries that are the seat of slight cystic degenera-

tion or cirrhosis, and, on the other, trying to preserve supposed normal tissue in organs which show such extensive disease that it is doubtful whether the best interests of the patient (both immediate and remote) would not be served by complete removal. In many cases it is advisable to simply separate adhesions. As there is no way of preventing their reformation, it is better to suture prolapsed tubes and ovaries at their normal level in the pelvis.

2. *Anatomical Results.*—In a certain proportion of cases resected ovaries undergo complete atrophy; in others the stromal remains may form the starting-point of cysts, requiring a second operation for their removal. A tube which has been rendered patent or resected, may again become occluded, or may form a hydrosalpinx or tubo-ovarian cyst.

3. *Symptomatic Results.*—These are often entirely satisfactory as regards the relief from pain and dysmenorrhea, the preservation of the functions of ovulation, and the occurrence of conception. Per contra, constant pain and dysmenorrhea may persist, menstruation may be absent, scanty, or excessive, and pregnancy is so far the exception that it to be regarded as an unusually fortunate sequence. In any case, we are not in a position to affirm how far conception following resection of the adnexa is directly due to this procedure, or how far to the accompanying treatment—curettement, separation of adhesions, restoration of the general health, improved sexual relations, etc. Our main object is the avoidance of the premature climacteric.

4. As regards technic, experience has shown that more successful conservative work can be done by the abdominal route, for reasons that are obvious, *i. e.*, thorough separation of adhesions, suture of raw surfaces, checking of hemorrhage, avoidance of drainage, etc. Catgut is preferable as a suture material.

5. As a corollary to the above, emphasis should be laid on the fact that, since the surgeon can never know the exact condition of the adnexa before opening the abdomen, he must not allow himself to be bound by any positive promise as to his course of procedure at the operating-table. While he should endeavor to preserve healthy organs and tissues whenever this is possible, and must necessarily be guided to a considerable extent by the expressed wishes of the patient, he must not be persuaded against his better judgment to practise conservatism at the immediate risk of her life or to court ultimate failure in order to give her the more than doubtful chance of future pregnancy.

The conscientious surgeon will not express himself too enthusiastically regarding the results of conservative operations for fear of arousing hopes which may be doomed to disappointment.

THE CORRECTION OF SPINAL DEFORMITY BY STAGES UNDER AN ANESTHETIC.[1]

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THE presentation of a paper which must necessarily be incomplete is, of course, to be deprecated. The great interest in the subject, however, prompts me to make this preliminary report in order to record my own observations in the immediate correction of the deformity after Pott's disease, and also in that of lateral curvature of the spine. A brief paper on this subject was published by the writer in the *New York Medical Journal* in March of the present year. A few of the cases have already been placed on record in that journal, but as I have had the opportunity of observing the patients since (indeed, they are still under observation), I am simply here to-day to report progress. The exact records or tracings I shall not reproduce, as I have not removed the corsets or the jackets in all instances for this tracing, and because, too, the cases themselves are incomplete. It will be my effort to disabuse your mind, as my own mind has been disabused, of certain erroneous impressions and certain dangers which have been suggested by writers, some of whom are simply critics. At the same time I have no desire to give the impression that the operation itself is entirely free from danger. The patient, for instance, may take ether poorly, too much force may be employed at the first operation, the disease itself may be located in a dangerous part of the spinal column, or the personal element of the patient may be a contra-indication; yet I am convinced that with reasonable care, such as orthopedic surgeons are in the habit of employing in their work, the deformity may be corrected by repeating the procedure, say half a dozen times. Again, a certain amount of correction may be secured without the use of an anesthetic by frequent renewal of the plaster of Paris or whatever dressing may be employed. Especially is this desirable when one is not thoroughly conversant with the use of plaster of Paris. Even in the best of hands excoriations may sometimes occur, and excoriations occurring in cases like these under consideration necessarily bring discredit upon the treatment. We somehow feel that we are able to maintain a good position when once secured.

In England, where plaster has for a long time been tabooed, steel and iron appliances are employed, yet such appliances are generally managed or controlled by skilful men. On the Continent plaster of Paris, with an immense amount of cotton batting, is wrapped about the body, and it does

[1] Read before the American Orthopedic Association, Boston, May, 1898.

seem to me that the deformity is bound to recur where so much cotton is employed. The ideal dressing would, of course, be a skin-fitting plaster-of-Paris bandage secured accurately about the salient points, thus ensuring a perfect fit. In this country most of us are reasonably familiar with the use of plaster, and we take certain precautions that will guard against excoriation. It may be just as well to state that excoriations are not the worst things a patient can have. Even if a small ulcer is produced over the tip of the bosse, or a long one at the side of it, there is no real harm done. The only trouble is we are obliged to discontinue the fixation, during which period the deformity will recur. In my own cases I have not seen fit to include the head in the dressing. I have employed piano felting on either side of the bosse, over the iliac crests, along the free ribs where these protrude, and have bound these on with a cheese-cloth bandage after having secured these pads more firmly by means of a needle and thread. With such precautions I rarely ever find an excoriation, and want to put this on record, although I am unprepared, as above mentioned, to give final results so far as deformity goes.

In reapplying plaster when an anesthetic is not employed, I have been in the habit recently of hyperextending the column and the hips, thus securing a very decided recession of the deformity. At the time I began this work I was under the impression that the method had not been employed in the City of New York. I find since, however, that while this is true, it had been employed in Chicago. The cases are as follows:

CASE I.—A boy, twelve years of age, in very good general condition, but with a very awkward gait, presented deformity in the dorsolumbar region, resulting from old Pott's disease, many years having elapsed since acute symptoms prevailed. The tracing was taken before force was employed, and a very thorough examination was made in the iliac fossæ, in search of psoas abscess, with negative results. It was difficult, however, to completely extend the thighs. Under an anesthetic (gas and ether) I operated March 1, 1898, by making firm pressure over the bosse. I succeeded in breaking down the deformity, so that the tracing showed a straight line. There was an immense amount of crackling, the result of breaking up of heavy and ligamentous adhesions. On removing the pressure, however, there was a little recurrence, but on applying the jacket I felt quite sure that the good position would be maintained. Following instructions of Calot and others, I put the patient to bed, intending to keep him there for the next two or three weeks. The next morning he was ready to sit up, in fact, felt no pain whatever, and, strange to say, had passed a very good night without a narcotic. After three or four days he was allowed to get up, there being no apparent reason for longer bed treatment. At the end of a fortnight we removed the jacket in order to reapply, without an anesthetic, and found a good-sized psoas abscess in the right iliac fossa. A large needle was inserted, but it was a dry tap. I applied plaster of Paris again, and a week or two later, under an anesthetic, employed more force, and have maintained this good position ever since. The abscess has given no trouble, and I doubt very much if it will. If it does I am prepared to take care of this complication.

CASE II.—A male, five years of age, deformity, Pott's disease, mid-dorsal. This boy has been in the hospital for a long time, had worn solid plaster-of-Paris jackets, and was quite accustomed to them. Examination made February 17, 1898, showed that his urine was normal; there was no pain or tenderness on pressure, and no sign of abscess. The disease was not at all active. On March 8th, under gas and ether, manual force was employed over the bosse, when the characteristic crackling was both felt and heard. While making pressure his respiration became affected a little, and the anesthetic was discontinued for one or two minutes; then, as danger seemed to have passed, it was renewed. The deformity in this case was not completely overcome. I should say it was reduced about two-thirds. He was put up in plaster of Paris, with the back in marked hyperextension. No unpleasant results followed. He was kept in bed for about two weeks; then on April 20, 1898, the jacket was cut down. There were no excoriations, except in one or two places, on the side of his body, where he had dropped some buttons. He was put in a swing at this time, and an attempt made to correct, with a fair amount of success. It has been rather difficult to keep his shoulders well back, although the plaster extended over them, and at the present writing I doubt very much whether the good position maintained at the time of the first operation remains. We expect to send him to the country for the summer, and in the fall the efforts at correction will be renewed.

CASE III.—A male, ten years of age, from the country, was admitted on April 5, 1898. There was incomplete paralysis of the lower extremities, but on the right side it was nearly complete. The reflexes were exaggerated, while there was no impairment of sensation. The deformity had existed, so far as the history was obtained, about two months only; the loss of power two or three weeks. The bosse was located in the upper dorsal. Two days after admission he was put under ether, and an attempt made to reduce the deformity, but it was only about one-half reduced. The plaster was carried well up around the neck and over the shoulders, and the dorsolumbar spine was put up in hyperextension. The following day there was a decided improvement in his limbs. He was able to move them about in bed quite freely, and he seemed anxious to stand up. This was not permitted, however, and special care was taken to prevent his sitting up. On the third day he had high temperature, and next morning it was found that he had developed scarlet fever.

He was taken at once to the Willard Parker Hospital, where he died within forty-eight hours. No autopsy was allowed.

CASE IV.—A girl, ten years of age, presented a deformity in the mid-dorsal region, the result of Pott's disease of long standing. There had been no acute symptoms for at least two years. On May 3, 1898, the spine was forcibly stretched and a plaster-of-Paris jacket applied. This child was rather nervous, and it was said that she had had for a long time, at irregular intervals, peculiar symptoms, such as spasm and pain, without any special cause. These attacks were thought to be hysterical, and left as suddenly as they had come on, never being followed by any other symptom. She was not allowed to get out of bed for three or four weeks. At this time the plaster of Paris was removed, further correction was made without an anesthetic, and this treatment will be continued until we secure a complete recession of the deformity.

CASE V.—A boy, six years of age, who gave a history of rickets. Deformity appeared some three years prior to this time, and he appeared at the Out-Patient Department of the hospital a year later. The deformity at that time was thought to be rachitic. On further examination at the time of his admission to the hospital, April 15, 1898, the deformity could not be corrected by manual force, and there was a history of pains pointing toward the disease being tubercular. He was put under an anesthetic April 20th, and direct pressure made over the bosse. The deformity was reduced at least one-half. Since then, without an anesthetic, it has been reduced still more, and he is at present under protective treatment.

These include all the cases of Pott's disease, while the following are cases of lateral curvature, in which, I am free to confess, results are far from brilliant. I am satisfied with the treatment thus far, yet it is a very slow process. One gains very little at each operation, and consequently gets discouraged. Inasmuch as the cases subjected to this procedure are extreme, as a rule, and inasmuch as the apparatus and exercises fail to effect any decidedly good results, I feel that it is our duty to resort to almost any method which is attended by the minimum amount of danger.

CASE VI.—The patient, an Italian girl, fourteen years of age, presented, at the time of her admission to the hospital in December, 1897, a very marked rotary lateral curvature in the dorsal region. This deformity had stunted her growth, and given her a typical hunchback, and it was undoubtedly as our English brethren say, "osseous." That is to say, we could affect no improvement by suspension. January 4, 1898, I attempted to stretch the back in an apparatus specially constructed for the purpose, employing one of the Schleich mixtures for anesthesia. The patient got too much chloroform and we had to desist. I question very much whether any reduction of the deformity was gained at this time. In March I made two or three attempts under an anesthetic, and secured from two to three inches increase in height. I have been careful to maintain this improvement by renewing the jackets frequently while she was suspended in the swing. Certainly at this time there is some flexibility in the column, and I am encouraged to proceed with the treatment.

CASE VII.—A girl, six years of age, who presented a right rotary lateral curvature, rather rigid and unyielding. On March 22, 1898, the spine was forcibly stretched, and a fair amount of untwisting obtained. On March 24th she was again put under an anesthetic, and once or twice since then the plaster has been renewed. She has, since then, been wearing a solid plaster-of-Paris jacket, has not been suffering from excoriations, and there is a decided gain in height.

CASE VIII.—A girl, nine years of age, S curvature, rachitic in origin. She had been under treatment for a number of years at the hospital without material change. On March 21, 1898, under ether, I succeeded in reducing the deformity about one-half. She is wearing plaster of Paris now. The plaster has been renewed once or twice, and the treatment will be continued.

Such is my experience, and I intend to renew the work with vigor during the coming fall and winter. There has been a certain number of bad results in reported cases from the other side of the water, but none, I believe, on this side. It is well to bear in mind that any good thing can be abused. At the same time we should remember that the deformities which are now under discussion are most obstinate, and at times unyielding. The aim should be to break up these osseous adhesions and to render the column flexible. This being accomplished, and care being taken to hold the spine in better position for a few months, this treatment can be followed by gymnastic methods with greater hope of success.

FACTS REGARDING THE DEATH-RATE OF DIPHTHERIA WHEN BASED ON THE MORTALITY STATISTICS OF A CITY.

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To arrive at the truth in regard to the value of antitoxin as a curative agent in diphtheria when based on the mortality statistics of a city certain factors must be carefully considered: (1) One should be unbiased in his opinion regarding the value of a given remedy. (2) One should consider the factor that in all diseases there are certain years in which the effects seem to be more virulent than

in others, so that a series of years must be considered and compared. (3) In making the comparison one should go back to the time when bacteriologic methods were not used as a means of diagnosis. (4) A series of years must be compared both before and after the date of the introduction of antitoxin. (5) Errors in figures must be carefully noted.

Each week we read the mortality statistics of the larger cities, and often we are surprised to find that the death-rate of diphtheria, scarlet fever, and other infectious diseases appears exceedingly high, while at other times it seems relatively low. When it is low in diphtheria we judge that antitoxin is being more extensively used, and when it is high we wonder why it is so. Again, in studying the mortality statistics of hospitals we find this same condition existing, and although in some hospitals it is claimed that the antitoxin is being used and that the death-rate is not diminished over that of pre-antitoxin days, and we wonder why this is so.

The study of statistics is such dry reading that as a rule they receive but little attention. Generally we note the gross results, such as the average mortality, but when it comes to the "laryngeal cases," the "patients under one year old," the "patients requiring intubation," the "moribund patients" we begin to wander in a maze of a confusion of ideas and frequently these details are skipped. And yet these latter cases are very important. For instance, if we say that in pre-antitoxin days the death-rate of diphtheria was 29.62 per cent. (which it was in Philadelphia from 1892 to 1895 inclusive), and compare this result with that obtained in the treatment of "laryngeal cases," in "children under one year old," in "neglected or moribund cases" in which antitoxin is used, we may find that the death-rate from diphtheria in pre-antitoxin days was lower than that period in which this specific treatment was used.

Another fatal error is in comparing the death-rate occurring in years in which the mortality of nearly all diseases is low with those years in which the mortality of all infectious diseases seems relatively high. This is a great and favorite fallacy.

For instance, if we wish to prove the value of a certain remedy in the treatment of scarlet fever in Philadelphia for the year 1896, with that of 1894, it is found that in the year 1896 the death-rate from scarlet fever was 5.85 per cent. while in 1894 it was 13.63 per cent. Clearly there is yet no specific treatment for scarlet fever, yet in 1896 we find the death-rate less than half of what it was in 1894, the reason being that in 1896 nearly all diseases were milder in character than they were in 1894. As a proof of this assertion reference may be made to the official report of the Bureau of Health:

POPULATION OF PHILADELPHIA.

1892.	1893.	1894.	1895.	1896.	1897.
1,092,168	1,115,562	1,139,457	1,163,864	1,188,793	1,214,256

Death-rate of Philadelphia from all diseases from 1892 to 1897:

1892.	1893.	1894.	1895.	1896.	1897.
22.25	21.20	19.19	20.24	20.17	18.72

Number of cases of diphtheria, membranous croup, scarlet fever, and smallpox from 1892 to 1897:

	1892.	1893.	1894.	1895.	1896.	1897.
Diphtheria.....	5051	3149	3159	3351	3191	5031
Membranous Croup	not obtainable	322	449	502	404	374
Scarlet Fever.....	6350	2849	1122	1195	1042	3553
Typhoid Fever....	2304	2519	2357	2748	2489	2994
Smallpox	7	43	136	319	none	none

Number of deaths from diphtheria, membranous croup, scarlet fever, typhoid fever, and smallpox from 1892 to 1897:

	1892.	1893.	1894.	1895.	1896.	1897.
Diphtheria.....	1435	916	1047	1020	862	1231
Membranous Croup	Reported as diphtheria	243	349	329	293	243
Scarlet Fever.....	485	267	153	79	61	282
Typhoid Fever....	440	456	370	469	402	401
Smallpox.....	none	5	13	45	none	none

Mortality from diphtheria, membranous croup, scarlet fever, typhoid fever, and smallpox from 1892 to 1897:

	1892.	1893.	1894.	1895.	1896.	1897.
Diphtheria.....	25.57	29.08	33.11	30.75	27.01	24.48
Membranous Croup	Unattainable	75.46	71.71	65.53	72.52	64.97
Scarlet Fever.....	7.63	9.37	13.63	6.61	5.85	7.93
Typhoid Fever....	19.09	17.75	15.69	17.06	16.15	13.39
Smallpox.....	none	11.62	9.56	14.10	none	none

It will be observed that the death-rate of Philadelphia is gradually being reduced, and it may be added that the number of deaths from at least two common diseases has shown an improvement as shown by the following statistics:

Deaths from phthisis from 1892 to 1897; also, the death-rate per 1000 persons living:

	Deaths.	Population.	Deaths per 1000 persons living.
1892....	2709	1,092,168	2.480
1893....	2671	1,115,562	2.394
1894....	2513	1,139,457	2.205
1895....	2449	1,163,864	2.104
1896....	2514	1,188,793	2.115
1897....	2388	1,214,256	1.966

(These figures seem to refute the statements frequently made that death from phthisis is becoming more common in cities.)

Deaths from diphtheria from 1892 to 1897; also, the death-rate per 1000 persons living:

	Deaths.	Population.	Deaths per 1000 persons living.
1892....	1435	See above	1.322
1893....	916	" "	.821
1894....	1047	" "	.902
1895....	1020	" "	.876
1896....	862	" "	.771
1897....	1231	" "	1.013

In making comparisons of the mortality of diphtheria at the present time when the culture method is in vogue with that of pre-antitoxin days, we must allow for mistakes which formerly resulted when the clinical diagnosis was mainly relied upon. It might, therefore, be of interest to compare the results of the two methods of diagnosis as obtained in Philadelphia. In the report of the Bacteriologic Division of the Bureau of Health for 1895, pages 232–233, we find the following statistics on this subject based on 1207 cases:

Table A, showing the results of all cases and the relation of same to the clinical diagnosis, 1207 cases.

Diphtheria bacilli present.	No diphtheria bacilli present.	Unsatisfactory.	Clinical Diagnosis Given.		Clinical Diagnosis of Diphtheria.		Clinical Diagnosis not Diphtheria.		No Clinical Diagnosis and doubtful, per cent.
			Cases.	Verified, per cent.	Cases.	Verified.	Cases.	Verified, per cent.	
775	291	141	705	86.4	557	90.2	148	72.9	41.5

It will, therefore, be observed that the percentage of correct diagnoses made by clinical methods in Philadelphia, and subsequently confirmed by a bacteriological examination, is relatively high, being verified in 90.2 per cent. of the cases, but shows a loss when the disease was not properly diagnosed.

The culture method as a means of diagnosis was instituted in Philadelphia on May 20, 1895. Membranous croup is gradually disappearing while the percentage of cases of diphtheria shows an increase. Many argue that since the culture method has been in vogue that cases are now recognized as diphtheria, which were formerly not suspected on account of their mild character, and that a relatively large percentage of these patients would recover even though antitoxin was not used. Undoubtedly this is partly true but it evidently does not hold good for the year of 1896. It might be of interest, therefore, to give this increased percentage of cases as reported to the Bureau of Health.

Number of cases of diphtheria from 1892 to 1897, with the rate per 1000 persons living:

	Cases.	Population.	Cases reported per 1000 persons living.
1892....	5051	1,092,168	4.597
1893....	3149	1,115,562	2.822
1894....	3159	1,139,457	2.772
1895....	3351	1,163,864	2.878
1896....	3191	1,188,793	2.684
1897....	5031	1,214,256	4.143

The writer endeavored to determine approximately the number of practitioners who availed themselves of the opportunity of having a bacteriological examination made as a means of diagnosis in suspected cases of diphtheria. It is stated in the "Annual Report of the Bureau of Health" that since January, 1897, the routine work of the laboratory has consisted in the bacteriologic examination of cultures from cases of diphtheria and suspicious inflammations of the throat and nose. For the year 1897 there were 3353 persons suspected of having diphtheria, and of these 2020 proved by bacteriological examination to have diphtheria bacilli, 1138 did not have diphtheria bacilli, and in 195 cases it was impossible to make a positive diagnosis. As there were reported to the Bureau of Health for 1897 a total of 5031 cases of diphtheria, it will be observed that about 66 per cent. of the profession availed themselves of this method of diagnosis at the hands of the Bureau of Health. It should likewise be noted that of the 3351 cases in which a bacteriological examination was made 33 per cent. of them did not show the presence of diphtheria bacilli, and these doubtless would have formerly been reported as cases of diphtheria and treated as such. Doubtless if we should take a series of years we might find that the percentage of mistakes that formerly occurred from a clinical diagnosis would not be far from that increased rate of reported cases as now observed when dependent upon the culture method as a means of diagnosis.

In the American Pediatric Society's "Report on the Collective Investigation of the Antitoxin Treatment of Diphtheria in Private Practice" (MEDICAL NEWS, May 15, 1897), it was stated that the mortality in 1704 laryngeal cases (worst type of the disease) in which antitoxin was used was 21.12 per cent., and in the 668 patients operated upon the mortality was 27.24 per cent. In nearly 6000 cases in which the antitoxin was used the first day the mortality was 4.9 per cent., for the second day 7.4 per cent., for the third day 8.8 per cent., for the fourth day 20.7 per cent., and for the fifth day 35.3 per cent. A careful study of the mortality statistics of Philadelphia evidently shows one of three things: (1) The period is yet too early to base an absolute conclusion regarding the beneficial effects of antitoxin in diphtheria. (2) That antitoxin is not used as frequently as it should be; or (3) its administration is postponed to a period in the disease when the chances of recovery on the part of the patient has become gradually lessened.

Professor Koch in Rome.—It is reported that Professor Koch has already arrived in Rome for the purpose of making a searching investigation into the etiology and nature of malaria, and the methods of infection. With that object in view every facility has been placed at his disposal by the municipal and collegiate authorities.

SEPTIC BRONCHOPNEUMONIA.

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IN the conventional nomenclature of pulmonary diseases, a tuberculous and a simple bronchopneumonia are recognized. In both affections the essential anatomic condition is an accumulation of inflammatory products in the smaller bronchi and their alveolar continuations, environed by hepatized tissues. The clinical differentiation between the two forms is in the presence of tubercle bacilli in the sputum. In the adult, bronchopneumonia is capable of further division from the standpoint of the clinician. During the past ten years, I have kept careful notes of all cases of bronchopneumonia, 61 in number, which have come under my observation. In accordance with my observations I am justified in adding to the list two other forms of the disease, and have denominated them, (1) non-febrile, chronic bronchopneumonia; and (2) septic bronchopneumonia. The cases which came under observation may be divided into tuberculous bronchopneumonia, 25 cases; simple bronchopneumonia (the conventional form), 10 cases; non-febrile, chronic bronchopneumonia, 15 cases; and septic bronchopneumonia, 11 cases. The last two forms are the subject of consideration in this contribution.

Excluding the tuberculous form from discussion, it is customary to regard bronchopneumonia occurring in adults as a foudroyant affection, attended by pronounced dyspnea, cyanosis, elevation of temperature, and symptoms of collapse. In the non-febrile form of bronchopneumonia, 15 of my cases admit of analysis as follows: course, subacute in 4, and chronic in 11 cases; no elevation of temperature in any one of the cases; slight dyspnea in 5 cases. Expectoration in nearly all the cases showed the presence of staphylococci and streptococci. The physical signs were those of bronchitis confined to the smaller tubes, percussion-note dull over discrete lung areas, notably the right lower lobe and the apices, with bronchovesicular, rarely bronchial respiration.

In the septic form of bronchopneumonia (11 cases) the clinical picture was essentially that of pulmonary tuberculosis, minus the presence of tubercle bacilli in the sputum. Such cases in the prebacillary period of medicine would have been regarded as indubitable cases of phthisis; in fact eight of the patients came to me with that diagnosis. The symptoms of these cases were invariably those of sepsis—remittent and intermittent types of temperature, night-sweats, chills, pronounced and rapid emaciation, anorexia, etc. In the majority of the patients the site of disturbance was limited to the pulmonary apices. The sputum of these patients was of a purulent character and contained in most instances streptococci and staphylococci, coli communis, and pneumococci in large numbers. The prognosis in both forms just described was good, cure being secured in the majority of cases by the pneumatic cabinet. The same results might have been attained with compressed air by means of any other efficient apparatus. I lay stress upon the employment of compressed air, and advisedly, because nearly all the patients who underwent treatment had resisted the conventional therapeutic methods. I mention the pneumatic cabinet particularly, because I believe it embodies the most rational means yet devised for the administration of compressed air. The effect of compressed air in these cases virtually secured a mechanical dislodgment of the inflammatory and septic products in the smaller bronchi and their alveolar continuations. Free drainage of the septic districts is obtained by aerial lavage. If this mechanical treatment is procrastinated there is great danger of the exudate in the non-febrile forms becoming septic, and of the septic form becoming tuberculous.

In addition to this treatment, iodid of potash was employed, this drug being one of the most efficient expectorants we possess. Its liquefactive action on the exudate is almost marvelous.

The following conclusions may be formulated:

1. Bronchopneumonia may exist as a chronic non-febrile affection.

2. Septic bronchopneumonia may simulate pulmonary tuberculosis.

3. The only clinical distinction between septic bronchopneumonia and septic pulmonary tuberculosis is in the presence of the tubercle bacilli in the latter affection.

4. The specific treatment of septic bronchopneumonia consists in free drainage by aerial lavage of the septic districts by compressed air and the employment of iodid of potash to facilitate expectoration.

CLINICAL MEMORANDA.

CARCINOMATOUS THROMBOSIS OF THE BRACHIAL ARTERY.

BY F. R. FRAZIER, M.D.,
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MRS. J., ninety-four years of age, was first seen September 24, 1897, at which time she presented an indurated mass, about the size of a hickory-nut, located on the margin of the lower lip to the left of the median line. A diagnosis of carcinoma was made, and an operation deemed inadvisable on account of the patients' advanced age, her

feeble condition, and extensive glandular involvement. She was next seen on March 2, 1898. The lower lip was nearly destroyed. There was very extensive cervical and mediastinal glandular involvement. A suppurating fistula existed on both sides of the larynx. Two days previously the patient had experienced sudden and acute pain in the right arm. The hand and forearm were noticed to become extremely pale and cold. When seen, the hand and forearm were discolored, cold, and anesthetic, while the fingers showed a very marked tendency to dry gangrene. Her condition was bad. She was semicomatose, and had Cheyne-Stokes' respiration. A dry antiseptic dressing was applied. She died eight days later without any evidence of sepsis. Dry gangrene of the hand and forearm was present. No autopsy was permitted.

CYST OF THE THYRO-HYOID BURSA.

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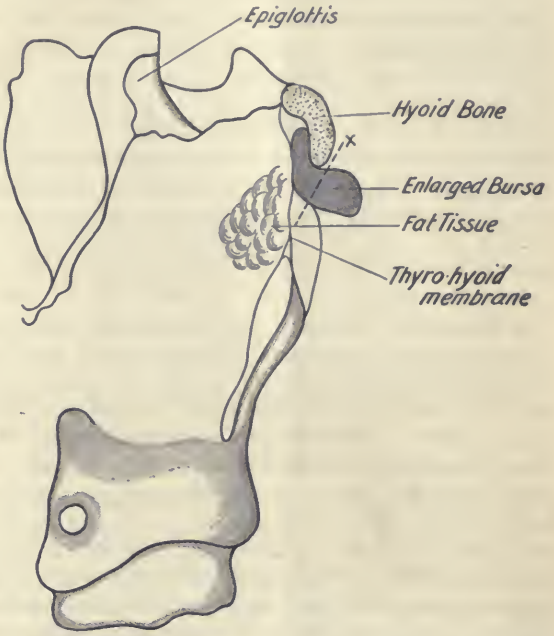
MISS B., nineteen years old, had had for about ten years a small swelling in the median line of the neck which had occasionally discharged through a pin-hole opening, a glairy mucus-like fluid. This swelling has varied in size from a pea to a hickory-nut. At times it has grown smaller from no apparent cause. Whenever the patient has had a cold this swelling has always become tense and full.

Examination revealed at the angle of the neck with the chin, just above the level of the top of the thyroid cartilage, exactly in the median line. a tumor, which was firm, elastic, rounded, the size of a hickory-nut. This tumor was attached to the deeper parts and moved with deglutition. The overlying skin was adherent in one spot where a small fistulous opening existed, admitting a fine surgical needle.

Three operations were performed upon this small tumor. The first was done in November, 1893, under cocain anesthesia. The tumor was exposed by a small transverse incision and the sac of the tumor was opened. The glairy mucus contents were evacuated. A fine probe passed downward and upward behind the body of the hyoid bone. The sac was removed down to the level of the hyoid bone and beyond this point was stimulated by the application of strong carbolic acid. The application of carbolic acid was made with the hope that the remainder of the sac might granulate and heal. The wound was closed and healed promptly. The tumor did not reappear for about six weeks but then became very evident.

On May 29, 1894, a second operation was done, again under cocain anesthesia. At this time the part behind the hyoid, inaccessible to the knife without dividing the hyoid body, was most thoroughly cauterized. The tumor again reappeared after a few weeks.

A third operation was performed on October 30, 1895, under ether anesthesia. A transverse incision was made over the swelling and the newly formed cyst sac isolated down to the body of the hyoid. There was no trace of the sac's running up behind the hyoid. This had been completely obliterated. The parts about the base of the little sac were carefully examined and no opening could be found. The wound was sutured securely without drainage by deep and superficial sutures.



Case of thyro-hyoid cyst. (In this illustration the right half of the hyoid bone and thyroid cartilage have been removed.) The bursa was excised at the point indicated by the dotted line.

Up to the present time there has been no return of the swelling. The accompanying diagram shows very well the relations of the parts involved in the cyst surroundings. Had the last operation not been successful I intended splitting the body of the hyoid bone, retracting the two halves and dissecting out the sac of the bursa, thus preventing any possible recurrence.

MEDICAL PROGRESS.

The Measurement of Sunshine at Health-Resorts.—JONES (*Lancet*, July 30, 1898) has been measuring the actinic value of the sunshine, in summer and winter, in London and at Llangammarch Wells, a mountain-resort in Wales, where the air is particularly pure and clear. He found that the actinic value of the sunshine in the latter place was in an hour of a summer's day from three to five times that of London under similar conditions of clear or clouded skies. In the winter the difference was not so marked, but the Wales sunlight was about twice as strong as that of London. A comparison with the results of similar tests made in the high Alps shows that the air may be just as pure in a mountainous district or far less lofty elevation. These tests are essentially a test of the purity of the air, as the amount of heat in the sun's rays has no effect upon the result. The method employed is briefly as follows: A solution of potassium iodid is prepared

containing 20 grams to the liter of water; also, a solution of pure sulphuric acid, 11.6 grams to the liter of water; and a third solution in which a liter of water contains 0.39 grams of powdered arsenious acid and 1.5 grams of potassium bicarbonate. To make a test of the sunlight 10 c.c. of solution No. 1, and an equal amount of No. 2, are placed together in a glass-stoppered bottle on a white porcelain plate, and exposed to the action of the sunlight. At the end of an hour the bottle is removed and enough bicarbonate of soda is added to it to just neutralize the acid. The bottle is then placed under a burette containing the solution of arsenious acid, and the latter is run in until the color of the iodin is completely discharged. The results are expressed in milligrams of iodin liberated per 1000 c.c. of solution used. Since in practice 200 c.c. of the mixed solution are used, the results obtained were multiplied by five to bring them up to the accepted standard.

Sunlight has a well-known inhibitory effect upon the life of pathogenic organisms. Direct sunlight will kill tubercle bacilli in a few hours or perhaps in a few minutes; whereas they will live for days if exposed to a very strong diffused daylight. The exhilarating effect of a burst of sunshine in the spring is probably not due to mere luminosity, but to an increased actinic action, a chemical action which we cannot very well explain, but which every one feels. In estimating therefore the value of a health-resort, the amount of this actinic value in the sunshine ought to be taken into account, no less than the number of days upon which the sun shines during the month or the year.

The Diagnosis of Frontal Empyema.—GOULY (*Med. Moderne*, May 7, 1898) says that empyema of the frontal sinuses is frequently overlooked. In typical cases three cardinal symptoms exist: violent pains at the root of the nose; nasal obstruction, and a discharge of pus from the nose or through the nasopharynx. The pain may be dull and continuous; or it may be paroxysmal with its seat in the region of the frontal sinus, or disseminated over the whole head. At times it is extremely violent, especially if the secretions can not escape from the frontal openings. The pain may be intermittent. It can be aroused by percussion on the base of the forehead.

At a more advanced stage of the affection, the skin overlying this region becomes infiltrated and edematous or there may be a hyperostosis of the external table of bone. The orbit itself is affected, and edema of its upper portion and a deviation of the globe of the eye may be noticed. Rhinoscopy will show that the openings into the frontal sinus are closed, usually by mucous polyps. The character of the pus is significant. In suppuration of the maxillary sinus the pus is almost always grumous and forms a caseous mass which does not readily flow away. In suppuration in the frontal sinus it is thick, creamy, and not fetid.

Lighting the sinus by electricity will corroborate the results of direct examination, but is not of itself sufficiently conclusive to make a diagnosis positive, especially if its results are opposed to those of other methods of examination. Both sides should be lighted and compared, in order that any difference may be manifest. Both sides are rarely affected simultaneously, as that presupposes that rhinitis and obstruction have been bilateral, which is not usually the case.

A Cancerous Family.—POWER (*Brit. Med. Jour.*, July 16, 1898) gives what is perhaps the most remarkable family predisposition to cancer ever recorded of the members of any family. A patient in the Infirmary at Peterborough had his right breast removed for scirrhous cancer in 1896. The following year malignant glands were removed from the axilla. He returned to the hospital this year with a recurrence in the axilla, too extensive to allow of removal. His father died at the age of 46 years of cancer of the breast. His mother died at the age of 86 years of no particular disease. He had two brothers and eight sisters. His first brother died at the age of 65 years of cancer of the throat. His second brother died at the age of 24 years of cancer of the left axilla, the breast never apparently having been affected. Of his eight sisters, the first four died of cancer of the breast, at the respective ages of 63, 46, 40, and 54 years; the second and third sisters having the disease on both sides. The fifth and sixth sisters were alive at the time of the report, but both of them were suffering from cancer of the breast. The seventh sister died while yet a child, and the eighth sister died in childbed.

THERAPEUTIC NOTES.

Aspiration of the Contents of the Stomach During Artificial Respiration. — BROSCH (*Therap. Monatshefte*, July, 1898) was led by an unfortunate death during the performance of artificial respiration to make an investigation of the possibility of the aspiration of material from the stomach under these circumstances. He found by thirty-one experiments made upon the cadaver that there is a strong aspirating power when artificial respiration is performed. This force is equal to the aspiration of from 1000 to 1210 centimeters of fluid (more than two pints). The latter is the maximum amount, the aspiration of which he was able to accomplish. It follows that it is impossible to remove fluids and foreign bodies from the middle and lower portions of the lungs, excepting, of course, by operative measures. The conditions for the aspiration of a large quantity of fluid during artificial respiration are more favorable in the living than they are in the cadaver. Pressure below the diaphragm is an especially dangerous procedure, as it was shown that such pressure can easily force fluids from a full stomach into the throat, the cardiac orifice, even in the living, affording little protection against such a regurgitation.

How may such a regurgitation and aspiration be guarded against? Of all the measures proposed and tested only one was found to have an absolute value, and that was the introduction of a tube into the esophagus before the movements of artificial respiration were begun. The procedure is simple enough, and it did not once fail of its end. The author, therefore, recommends that it be performed in all cases before artificial respiration is begun.

THE MEDICAL NEWS.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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Address the Editor: J. RIDDLE GOFFE, M.D.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK.

Subscription Price, including postage in U. S. and Canada.

PER ANNUM IN ADVANCE	$4.00
SINGLE COPIES	.10
WITH THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, PER ANNUM	7.50

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SATURDAY, SEPTEMBER 24, 1898.

THE ARMY INVESTIGATION.

THE determination of President McKinley to appoint a committee and order an investigation of the alleged neglect, incompetency, and abuses in the management of army affairs gave foundation for the hope that the facts concerning the War Department's conduct of the war would be brought clearly before the public and the responsibility for mistakes and incompetency definitely fixed. It would seem that the President entered upon this undertaking with all sincerity, but evidently without due consideration. The President can order an investigation and appoint a committee, but, unfortunately, no committee thus appointed can be adequately empowered, except by act of Congress, to prosecute an investigation efficiently. It cannot judicially administer an oath, compel the production of papers, or the attendance of witnesses, nor has it the power to punish indifference to its behests. In each House of Congress, however, inheres the power to conduct adequately such investigations as the present contingency requires, according to the Revised Statutes:

101. The President of the Senate, the Speaker of the House of Representatives, or a chairman of a Committee of the Whole, or of any committee of either House of Congress, is empowered to administer oaths to witnesses in any case under their examination.

To them is also given the power to summon witnesses, to insist upon answers, to compel the production of pertinent papers or documents, and to inflict punishment for recalcitrancy.

It is to the legislative branch of the Government, therefore, we must look for a searching inquiry into the conduct of the war in all its phases. This cannot be undertaken till Congress convenes in December next. In the meantime the President's Committee by devoting its inquiry to the volunteer camps may be able to throw some light upon the causes of their deplorable condition, and so be of service to the general betterment of the army camps as well as to the saving of many lives.

As the revelations from different quarters group themselves and the details of suffering, neglect, and incompetency become known the necessity of a searching investigation asserts itself with steadily increasing insistence. The Surgeon-General of the army has been charged with dereliction in not having had a sufficient supply of ambulances and medical and surgical stores during the Santiago campaign. In reply to this the Surgeon-General says that an abundant supply of everything needed in his department was ordered and would have been at hand had it not been for the utter failure of the Quartermaster's Department, which was responsible for the transportation. His charges have corroborative evidence in the facts that have been steadily coming to light indicative of the entire lack of system in loading the transports, and absolute ignorance of the requirements of such an undertaking. No one can be held responsible for not having had experience in such matters, but the least that can be asked of one who assumes this responsibility is that his experience shall have been such as to develop the faculties necessary to conduct work of that character with judgment, and that he shall have a reasonable acquaintance with the recorded experience of others. In Field-Marshal Lord Roberts celebrated book, "Forty-one Years in India," vol. 2, p. 28, in connection with the Abyssinian campaign we find recorded the following simple directions for loading transports:

I had often read and heard of the difficulties and delays experienced by troops landing in a foreign country in consequence of their requirements not being all shipped in the same vessel with themselves—men in one ship, camp equipage in another, transport and field-hospital in a third, or perhaps mules in one and their pack-saddles in another; and I determined to try and prevent these mistakes upon this occasion. With Stewart's permission I arranged that each detachment should embark complete in every detail; which resulted in the troops being landed and marched off without the least delay as each vessel reached its destination.

This precedent, of so simple a principle so successfully applied, if followed in the shipment of the Fifth Army Corps to Cuba would have provided the invading army with field- and siege-guns, commissary stores, ambulances, and medical and surgical supplies. Instead of which, as a matter of fact, the guns were packed in one ship, their carriages in another and their wheels in a third. The various parts of the ambulances were distributed throughout the fleet, and the medical supplies after primarily being entirely left behind at Tampa, were later stowed away in some ship and carried back and forth before they were finally landed. And for this the medical arm of the service is held responsible!

It has been suggested that the most judicious thing the President can do now is to abandon his project for an investigation and await the action of Congress, as the result of the work of his committee could not fail to be unsatisfactory to the country. In the management of the volunteer camps, however, there is a field for the inquiries of this committee provided they can be promptly undertaken and promptly concluded, for the purpose of informing the President how these camps have been managed and under whose supervision they have been placed. To mention one instance, they would have no difficulty in discovering that one of the most responsible medical positions in the entire army has been filled, not by the promotion of the best medical officer in the regular army—a man of medical and surgical experience as well as familiarity with camp-life and army methods—nor by a prominent physician taken from civil life who had a national reputation as a sanitarian, but by an obscure veterinary surgeon. The position referred to is no less than the chief surgeonship of an entire army corps. This veterinary surgeon has been the chief medical officer in charge of Camp Thomas at Chickamauga Park. His appointment was not made at the recommendation of the Surgeon-General of the army but as a result of political influence. Every medical staff officer in this entire army corps had to submit to the mortification of being *vis*é*d* and approved by this same veterinary surgeon. The responsibility for the sanitary arrangements and conditions of an encampment containing 40,000 men was vested in a man who, probably, never in his life gave one moment of serious reflection to the personal hygiene or sanitation of a body of men however small; a veterinary surgeon whose entire medical experience for the past fifteen years has consisted in doctoring horses, cattle, dogs, and cats. What else could be expected in a camp entrusted to the supervision of such a man than that it should have a reputation for filth and uncleanliness; that the water should be contaminated, and that the ranks should be ravaged by a frightful epidemic of typhoid fever.

THE CAMPS OF INSTRUCTION.

THE time has now come when we can dispassionately and impartially review the medical aspect of the military campaign now closing. We can clearly ascertain the causes of the misfortunes which have befallen the army and determine the responsibility for them. If we shall seem too severe in our strictures it is in deep humiliation that we are forced to record the shortcoming of those for whom, as members of our profession, we are disposed to find excuse; and we fall far short of painting an exaggerated picture.

The camps of instruction were for the purpose of familiarizing the volunteer with the duties of the soldier, train him for active service in the field, and particularly to bring him to a high physical efficiency. At the first call of the President each State entered into generous rivalry to furnish its quota of troops. Recruiting to the war standard was vigorously prosecuted, and mobilization was rapidly effected. Here we find the first cause of the inordinate amount of illness which has rendered the army practically useless. Adjutant-generals, owing their appointments to political favoritism or personal friendship, without military experience and devoid of even common sense, have imagined that the gathering together of masses of men in a hastily determined upon rendezvous was "mobilization" in the proper acceptation of the term. Thus it came about that a horde of

ununiformed, unequipped men, with some companies of the National Guard were sent into camp. While it is no particular hardship for a properly equipped soldier to bivouac in the inclement weather of our spring it was positive brutality, born of selfish conceit, to send unsuitably clad civilians to a camp which was unprepared and without sufficient tentage. An adjutant-general, so ignorant of the duties of his office that he assumed command of a portion of the National Guard while a ranking officer was present could be expected to do no better. The recruits should have been retained in the armories until such time as they could be properly equipped. The time might have been profitably employed in setting-up drills and instruction. These men were but obstacles to camp routine and that they were not incapacitated by unnecessary exposure was due to good fortune rather than to good management.

With the ignorance and incompetence of adjutant-generals begins the chapter of mismanagement which has wrecked as fine a body of men as ever assembled at the call of a nation's ruler. With the assigned reason that raw troops would be more quickly fitted for service in the tropics most of the camps were located south of Mason and Dixon's line. Facility of transportation to the supposed port of embarkation was also considered. It is claimed that not all camp-sites were passed upon by competent medical authority. It is to be hoped that this is true, for the surgeon who would certify that a suitable camp-ground is found where solid rock outcrops within three feet of the surface, so that the sinks could never be properly covered, certainly showed ignorance of one of the fundamental principles of camp hygiene. Nor indeed could a site be chosen upon the recommendation of a surgeon when the water-supply, polluted by one portion of the camp, was to be used by another section. The location of sinks, the disposal of refuse, and the proper policing of camps are matters for the exercise of common sense and good judgment.

An effort has been made to account for the acknowledged failure of the Medical Department by placing the blame upon the volunteer and acting assistant surgeons. To give point to the charge of incompetency and inexperience the latter are called "contract surgeons." To our mind there is no essential difference between a "contract," volunteer, or army surgeon. Many of the acting assistant and volunteer surgeons are men of greater executive ability, larger experience, and higher professional standing than their fellows in the army.

The difficulty in transporting supplies added to unhygienic camp discipline is responsible for the outbreak of fevers so extensive that every regiment upon the march left its trail of disease. That the surgeons alone, no matter how experienced or competent, could have kept a respectable sick percentage, is evident from a single instance coming under our observation. A permanent state camp occupied by a regiment of infantry and a battery of artillery after two months became so dirty that the odor of the sinks and of the kitchens was perceptible in almost any portion of the camp. It is said that there were seventy prisoners in the guardhouse, yet the camp was not properly policed. The men, in spite of two-months' drill, were not well set up and none showed the alertness and snap of the soldier. With a commanding officer who would be satisfied with such slovenly conditions the surgeon, whom we know to be competent and efficient, was powerless to maintain a respectable standard of health. In fact, at the time of inspection, an epidemic of typhoid fever had begun, and later extended so that the projected encampment of a home regiment became impossible. This was a camp of small size, near to markets, well equipped, containing men of far above the average intelligence, which became infected simply because it was not kept clean. What occurred in this instance undoubtedly came to pass in most of the camps. The causes of disease in the camps of instruction have been Falstaffian adjutant-generals, camps located for reasons other than military or hygienic, and finally camps dirty beyond the power of the surgeons to control. The Secretary of War has sought to offer excuse for the abuses existing by stating that in the work of creating an army of two hundred thousand men great difficulties were encountered. Had the Secretary created such an army some slender excuse might be accepted. The facts are that some two hundred thousand men, chosen for their good health and strong physique, are taken from their homes to be trained in the discipline of soldiers. Without having faced an enemy, without leaving the country, a regiment returns two hundred and sixty sick and marches through the streets of

the metropolis, scarcely a battalion fit for duty. The Secretary has created an army, but it is an army of the sick and dying.

ECHOES AND NEWS.

No Yellow Fever in Porto Rico.—Despatches from Ponce, dated September 19th, report that there are no more suspicious cases of yellow fever developing, and that the alarm incident to the early reports has entirely subsided.

Yellow Fever in Louisiana.—The Louisiana State Board of Health reported September 19th three additional cases of yellow fever in New Orleans, making four in all. No deaths. Also five cases in an Italian camp at Harvey's Canal, in Jefferson Parish.

Bellevue Appointments.— Commissioner Keller of the Department of Charities has appointed to the visiting staff of Bellevue Hospital, Dr. Henry C. Coe, gynecologist; Dr. L. Bolton Bangs, genito-urinary surgeon; Dr. B. Farquhar Curtis, surgeon; Dr. George D. Stewart, surgeon, and Dr. Egbert LeFevre, physician.

Yellow Fever in Mississippi. — The Secretary of the State Board of Health of Mississippi reported September 13th, "One case of yellow fever in Jackson. Already steps have been taken to stamp out and prevent the spread of the disease." No new cases have been reported from Franklin, Norwood, Holly Springs, Galveston, or Key West.

Married Women as Public-School Teachers.—The Board of Education of the Borough of Queens, New York City, at its recent session adopted resolutions to the effect that when a teacher gets married it will be considered equivalent to her resignation. It was also decided that hereafter the application of married women for positions as teachers must be endorsed by the unusual number of five members of the Board.

The Health of New York City.—In the report of the Health Department for the week ending September 17, 1898, appear the record of 169 new cases of tuberculosis and 145 deaths; typhoid fever, 209 new cases and 44 deaths; diphtheria, 102 new cases and 18 deaths. The increase in the number of typhoid cases is apparently due to the reception of soldiers into the hospitals upon their return from Montauk and the Southern camps.

Mortality among the Spanish Soldiers Returning to Spain.—The transport "San Ignacio" sailed recently from Santiago with 1000 Spanish prisoners. Of these, 123 died on the voyage. The high mortality among the troops returning in transports to Spain is ascribed by the Spaniards to the inhumanity of the Americans in compelling men in a critical condition to embark so that the Santiago hospitals could be cleared for the American sick.

The Transport "Vigilancia" Arrives at Montauk.—The transport "Vigilancia" which left Santiago on September 6th arrived at Montauk Point September 13th. She brought 320 passengers of whom 76 were sick and 15 ailing. Among those on board were 22 nurses, most of them colored and immune. This ship brought the last detachment of the Fifth Army Corps. Thirty sick soldiers and 8 nurses are all that remains of the army in Cuba.

The Fondness of Soldiers for Pie.—The soldiers of the Volunteer camps have developed an extraordinary fondness for pie particularly when recovering from typhoid fever, dysentery, or some other ailment which requires the greatest care in diet. Various devices have been resorted to to prevent them from gratifying their fatal longing, and recently the authorities at Camp Wikoff promulgated an edict forbidding the sale to soldiers of pies, pastry, or ginger ale.

The Louisiana State Board of Health. — In accordance with the law enacted by the last legislature requiring the Governor of the State to appoint seven representative physicians to constitute the State Board of Health, the following gentlemen have been selected and appointed: Drs. Edw. Souchon, President, Orleans Parish; H. S. Lewis, Orleans Parish; Chas. Goudel, Orleans Parish; J. P. Egan, Caddo Parish; W. G. Owen, Iberville Parish; R. L. Randolph, Rapides Parish; T. T. Tarleton, St. Landry Parish.

The Chicago Society of Internal Medicine. — A joint meeting of this Society and the Chicago Medical Society was held Wednesday evening, September 21st. Dr. John A. Robinson delivered a Presidential address. Dr. Daniel R. Brower, in an elaborate paper, opened the discussion upon "Acute Cerebral Meningitis," and Dr. Adolph Gehrmann read a paper on "The Results of Widal's Test in Typhoid Fever." The annual meeting will be held in January. The subject for discussion will be "Acute Articular Rheumatism."

The New Building of the Jefferson Medical College, Philadelphia.—Final plans for the new building of this institution have been approved by the trustees. The structure when completed will be one of the handsomest of the kind in this country and will cost about $250,000. The contract calls for the completion of the building by June 1, 1899. The building will contain the lecture-rooms, various laboratories, dissecting-rooms, etc. A unique feature will be the provision made for a gymnasium, reading- and billiard-rooms, and bicycle-lockers.

Typhoid Fever at Camp Meade.—The latest reports from Camp Meade indicate the presence there of more than one hundred typhoid-fever patients in the division hospitals. The sudden increase in the number of typhoid cases is attributed to the arrival of two New York regiments from Camp Black. The cases that developed at Camp Black in these regiments were of a mild type, but it is thought that the effort of breaking camp, making the long journey, and the change of location has changed the character of the disease to its worst form.

The Tax on Medicine Questioned. — A controversy has arisen in the Internal Revenue Bureau regarding the

proper classification of europhen, phenacetin, acetylene, lysetol, celoplien, pyretin, also sulfonal, trional, etc. The manufacturers of these drugs failed to place the proper revenue stamp upon them, claiming exemption as non-compounded articles. A test case is to be made as to the liability of these drugs to taxation, and the Collector at New York recently seized the place of business of an agent for these preparations. All the articles in question are to be stamped pending the decision of the court.

The Low Birth-Rate of Ontario, Canada.—The Montreal Anglican Synod recently held a discussion upon the low birth-rate in Ontario. It developed in the discussion that not only is the birth-rate low, but the marriage-rate is far below that of any other country of equal dimensions in the world. The reason for the former was ascribed by the ministers to causes over which persons have absolute control, and they insisted that the matter involves questions of grave moral responsibility. The low marriage-rate was accounted for by the fact that so many women are employed in stores and in other occupations, and the migration of young men from the rural districts to the cities.

A Positive Danger.—Professor Vincenzi is said to have been making investigations regarding the purity of certain holy water used in a popular church in his native city. He found that one drop of the water taken on Saturday while people were applying it to lips or brow, when spread on a gelatin sheet, yielded within forty-eight hours about 2300 colonies of bacteria. On Sunday when the holy water was in more constant use the professor could not estimate the innumerable colonies, but his tests proved that there were diphtheria bacilli among them, and cases of diphtheria in Sassari at the time emphasized the revelation.—*Boston Medical and Surgical Journal.*

Cornell University Medical School.—This institution has succeeded in procuring a plot of land on the west side of First Avenue, reaching from Twenty-seventh to Twenty-eighth streets, and will commence immediately the erection of a five-story building to cover the entire plot. The building will contain not only the Medical College but also the Dispensary. The cost of the building and land is estimated at $600,000. It is expected that the new building will be ready for occupancy in October, 1899. In the meantime the college will occupy the Loomis Laboratory and the building formerly occupied by Bellevue Hospital Medical School. The benefactor of this new institution is Colonel Oliver H. Payne who has bestowed upon it the lavish endowment of $1,500,000.

Diplomas Made Handy.—The *Medical Press* has found recently in an Irish daily contemporary a congratulation to a member of the Irish Constabulary on the fact that he has become a fully qualified medical practitioner through the agency of the Queen's College, Belfast, and also, an intimation that another police constable is following his example and hopes soon to be found in "The Medical Register." Commenting upon this our contemporary says: "If the Royal Irish Constabulary permits the absence of an officer for five hours a day during four academic years, we can only express regret that we do not belong to the service. If, on the other hand, the teachers of the Queen's College and of the hospitals in Belfast are distributing sham certificates for sham attendance to enable persons who are not *bona fide* students to go in for examination, it is our duty to call the attention of the profession to the matter."

Fifth Annual Meeting of the American Academy of Railway Surgeons.—The preliminary program of the Fifth Annual Meeting of the American Academy of Railway Surgeons, to be held at the Auditorium, Chicago, Illinois, Wednesday, Thursday, and Friday, October 5, 6, and 7, 1898, is as follows: Wednesday, at 10 A.M.—"Anesthesia," R. H. Cowan, M.D., Radford, Virginia. "Traumatic Injuries of Peripheral Nerves," D. S. Fairchild, M.D., Clinton, Iowa. "Injuries of the Genital Organs," Milton Jay, M.D., Chicago, Illinois. Second Session at 2.30 P.M.—"The Radical Cure of Hernia," W. J. Mayo, M.D., Rochester, Minnesota. "Concealed Meningeal Hemorrhage," H. Reineking, M.D., Sheboygan, Wisconsin. "The Interment of Ericsen," W. J. Galbraith, M.D., Omaha, Nebraska. Thursday, October 6th, at 9.30 A.M.—"Physical Examination for Railway Service," J. F. Pritchard, M.D., Manitowoc, Wis. "The Hygiene of Railway Injuries," G. P. Conn, M.D., Concord, New Hampshire. "Conservatism in Railway Surgery," H. Hatch, M.D., Quincy, Illinois. Fourth Session at 2.30 P.M.—President's Address, "The Higher the Order of Railway Surgery the Greater the Protection to the Employe, the Passenger, and the Company," R. Harvey Reed, M.D., Rock Springs, Wyoming. "Convenient First Dressing in Fractures, with Samples," E. H. Trickler, M.D., Cutler, Ohio. Friday, October 7th, at 9.30 A.M.—"Surgical Treatment of Some Varieties of Disease of the Prostate and Seminal Vesicles," G. E. Benninghoff, M.D. The following Fellows of the Academy have promised papers but up to date have not furnished subjects for the same: Drs. A. D. Bevan, Chicago, Illinois; Allen Staples, Dubuque, Iowa; LeRoy Dibble, Kansas City, Missouri; C. K. Cole, Helena, Montana; George W. Crile, Cleveland, Ohio. An executive session will be held daily at the opening of the meeting. D. C. Bryant, M.D., Secretary, Omaha, Nebraska.

CORRESPONDENCE.

THE PRIORITY IN THE "RIGHT TO LEFT AND LEFT TO RIGHT" OPERATION IN HYSTERECTOMY FOR FIBROID AND PUS CASES.

To the Editor of the MEDICAL NEWS.

DEAR SIR: December 1, 1894, I published in the MEDICAL NEWS a paper on "A New and Rapid Method of Dealing with Intraligamentous Fibromyomata." The claims I made for this operation were that by it time was saved, the uterine artery on the side of the nodule was secured beneath the nodule by a ligature applied from the vaginal side after the uterus had been cut loose from

one side and tilted over the nodule, wounding the ureter was avoided, and without splitting the capsule of the fibroid.

October 9, 1894 (before publishing this paper), I read a paper before the New York State Medical Association on "Hysterectomy in Pus Cases," in which paper I had a crude drawing showing the application of double ligatures *en masse*, placed upon one uterine artery in this manner, namely: from the vaginal side after tilting the uterus over to one side. The method necessitated removal of the cervix, the uterine artery stumps being ligated *en masse*.

At a stated meeting of the New York Obstetrical Society, December, 1894, I presented eight specimens, some pus cases, and others, pus with fibroids. The reports were not so much to illustrate the features of my operation, but rather to promote discussion regarding the propriety of the abdominal or vaginal route in operating upon these cases. Hence, these reports did not state positively that the ligatures were applied from the vaginal face in Cases II. and III.; but in Case IV. I say: "The left uterine artery was secured from the vaginal side, the fibroid nodule peeled out of the broad ligament and the uterus, together with the left adnexa, removed." I further state: "The other (feature of interest) is the removal of the specimen after the uterine arteries were secured. This latter method I have adopted now a number of times in these old inflammatory lesions where the union between bowel and pus-tube seems so intimate as would endanger the former if I attempted to remove them in face of the oozing which accompanies the separation of tissues before the vessels are secured."

So then, in October and December of 1894, I reported cases of fibroid and pyosalpinx removed by progressive ligature down one side and up the other, or "left to right and right to left." I am constrained to make claim to priority for this operation because nearly two years after the first application of this method I find in the *Bulletin of the Johns Hopkins Hospital*, February-March, 1896, a description of almost identically the same operation. The claims made by the Johns Hopkins Hospital are: (1) Saving of from sixty to eighty per cent. of the time in the enucleating stage of the operation. (2) The ease with which intraligamentary myomata and myomata beneath the pelvic peritoneum may be enucleated. (3) The ease with which inflammatory masses posterior to the broad ligament may be enucleated by attacking them from below after dividing the cervix. (4) The control of a displaced ureter on the side last opened up, keeping it out of the way of injury by the simple mechanism of the operation.

All of these claims in the *Bulletin* I had made nearly two years before. The sole points of difference are: that I do complete hysterectomy, while the Johns Hopkins Hospital staff leave the cervix; and I ligate the uterine arteries *en masse* while they ligate in continuity. The *claims* for the two operations are identical. As my report antedated theirs nearly two years, I claim credit for the procedure, which is known here as Kelly's operation and in France as "la méthode Américaine."

I regret very much being compelled to make this statement, and in its utterance I beg that none will think I seek to blame any one. Perhaps it is my own fault that this unpleasant situation has arisen for the *Johns Hopkins Hospital Bulletin*. I might have prevented it had I more liberally advertised and more beautifully illustrated the operation. The only agencies at my command were the New York Obstetrical Society, the MEDICAL NEWS, The New York State Medical Association, and my own poor pen.

Very truly yours,
WM. R. PRYOR, M.D.

NEW YORK, September 14, 1898.

PRIORITY OF THE SUGGESTION OF SALINE INFUSION IN SHOCK.

To the Editor of the MEDICAL NEWS.

DEAR SIR: On reading my article on "Post-operative Saline Infusions," published in the MEDICAL NEWS of September 18th, I am struck with my omission therefrom of all reference to Dr. Dawbarn of New York, to whom the world is indebted for the first suggestion of the intravenous use of normal saline solution as a preventive of shock. Dr. Dawbarn also first demonstrated the fact that for such purpose the temperature of the solution should be high—115° to 118° F.—and thereby perfected one of our most valuable and reliable therapeutic measures in such cases.

I am so averse to doing Dr. Dawbarn injustice, even by a "sin of omission," that I ask you to publish this statement in your next issue of the "NEWS."

Very sincerely yours,
EUGENE BOISE.

GRAND RAPIDS, MICH., September 15, 1898.

MONTAUK POINT AS A HOSPITAL CAMP.

To the Editor of the MEDICAL NEWS.

DEAR SIR: You ask my opinion as to the relation between the number of sick at Camp Wikoff and the hospital accommodations provided therefor. Premising that the opinion is formed not upon full official data but only upon such partial reports as have appeared in the newspapers and upon personal observation of a few of the regiments, I take pleasure in replying.

The camp was established for the reception of the Fifth Army Corps, then at Santiago, which numbered about 22,000 men. Several of its general officers had insisted, in a letter published in the papers, in demanding an immediate withdrawal of the entire army from Cuba because of the prevalence and rapid spread of fever among the men; they stated that 90 per cent. of the force were, or soon would be, unfitted for duty by illness. Assuming that half of the men thus affected would require hospital treatment, this estimate called for hospital care for 10,000 men. The Government began by erecting a general hospital with 500 beds and a detention hospital which ultimately had 600 beds. The general hospital was soon enlarged to the capacity of 2000 beds, and in the second week of September the four division

hospitals, each with 150 beds, were constructed; at the same time half of the general hospital and almost all of the detention hospital were taken down so that the hospital capacity of the camp was reduced at that time to about 1000 beds. Its maximum was 2000 beds, and was reached late in August. According to the scanty reports which appeared from time to time, the maximum of troops in camp at any one time was about 20,000, and was reached about September 1st. It was rapidly reduced during and after the second week of September.

The hospitals were made of floored wall tents with slight wooden frames; construction was easy and the supply could have been increased almost at will in a day or two; the supply of nurses was ample; more were offered than were accepted; that of orderlies or male nurses was apparently sufficient; that of physicians appeared to be ample. The Red Cross furnished $14,000 worth of supplies and I believe many of the nurses.

In the first month more than 6000 patients were received in the general hospital. Almost all of them came directly to it from the transports or through the detention hospital. The average stay was less than a week probably, for the capacity was only 500 at first, and there were from 400 to 900 vacant beds after September 5th. During the rush of arrivals on transports, from 150 to 300 patients were discharged daily to make room for the new ones, and many of them were sent to hospitals in neighboring cities. Many were discharged as "well" either to their regiments or on furlough, the latter drifting in large numbers into the city hospitals a day or two after their discharge. Not a few, I have been told, were discharged against the protest of the attending physicians, and it is certain that large numbers of them still needed hospital care, and would not have been discharged when they were had it not been for the necessity of making room for others whose needs was thought to be greater. The published mortality, of about 150, is no measure of the severity of the diseases, for it does not include those who died after removal or were discharged as "well," although they and their companions are counted among the number treated. On these facts alone it is evident that the hospital accommodations were inadequate and it is probable that a number of the deaths among those who were thus discharged were due to this withdrawal of hospital care. If the condition of the troops in camp is considered this inadequacy becomes still more apparent, especially if we include among those needing hospital care those who, because of present or past illness, were unable to eat or digest the army rations, good and wholesome as they were.

That there were many really ill in the regimental camps, men with typhoid, malaria, or severe diarrhea, is beyond question, but I have no means of estimating this number. I saw some such in every regiment I visited. I have had several such in the Hudson Street Hospital (men who came to the city on furloughs and were picked up by the ambulance), and many such have been cared for in other city hospitals. Why were they not taken to the general hospital? I do not know. Probably because at first there was no room for them, and later, because they preferred the freedom and companionship of their camp, and thought they would do as well there as in the hospital. Numerous as I believe these cases to have been, they were far outnumbered by the "ailing," those who may or may not have been on the sick-list, large as that was, who were miserable, had occasional chills, could not eat, could not work. The 8th Ohio left camp, 900 officers and men, with a sick-list of 261. The commanding officer of a regiment of regulars told me his sick list was 139 out of a total of 320. A regimental surgeon told me he had been called on to furnish 15 men for guard duty at the hospital; he picked up the best men in his regiment and before they had been two hours on duty two of them had been put to bed in the hospital. One of the papers quoted a regimental commander as saying that he could muster only 8 men fit for duty in response to a call for a detail of 24. We are all familiar with the pitiful stories told by so many eye-witnesses, of men dropping by the roadside as the troops marched from the transports to their camps; of the sick at the Montauk station, in the trains, and at Long Island City. These were the "well" men, or at least, those who did not have hospital treatment.

I would not claim that all these men, if at home in the city would receive hospital care, but they did need special food as well as medicine. Unfortunately, the Army routine makes no provision for such a condition outside of the hospital. These were men whom the War Department had collected and maintained, and drilled for months, some of them for years, in order to have an effective force of which it might at any moment have urgent need, and ordinary prudence and economy, to say nothing of humanity, should have prompted it to take fitting care of them. It was quite possible, even easy to do so. In default of special tents, those which sheltered them in the camps could have been grouped as regimental or brigade hospitals, and at the most, only extra nurses and orderlies, and the special food would have been required. Even the machinery and routine therefor could have been found in the department. The failure to do so must, I think, be deemed neglect on the part of those who were charged with the making of proper and adequate provision for the force.

LOUIS A. STIMSON, M.D.

NEW YORK, September 15, 1898.

OUR FOREIGN LETTER.

[From Our Special Correspondent.]

RETIREMENT OF PROFESSORS ON AGE, COMPULSORY, OR OPTIONAL, AND WHEN?—ACUITY OF VISION AND ABSENCE OF BALDNESS AMONG GERMAN UNIVERSITY MEDICAL PROFESSORS—THE OPENING OF THE NEW PATHOLOGICAL MUSEUM AND THE TWENTY-FIFTH ANNIVERSARY OF THE CHARITÉ ARZTE—THE PASTEUR TREATMENT IN BERLIN—THE PADERSTEIN STIPENDIUM FOR '98 AND '99.

BERLIN, September 12, 1898.

THE recent retirement of Professor Gruber of Vienna, on the completion of his seventy-first year, recalls the question so often discussed here in Germany of making

professorial retirement obligatory in German universities at a certain age. While, thanks mainly to the efforts of the elder Rokitansky, a law exists in Austria by which professors are retired at seventy, an additional year, the Ehren or honor year being allowed by ministerial indulgence and custom now, no such law exists in Germany. As a consequence the holder of the professor's chair to whom the blessing of years is given occupies his position on into the eighties.

While in some cases the enforced retirement at seventy-one, as is true of the distinguished Vienna otologist just now, deprives a university of some years of active professional life on the part of distinguished members of its faculty, as a rule the period of really good work is past at seventy and retirement is certainly advisable. There is no doubt that the system of non-interference in German universities has in many cases, even in great universities, left important chairs in the hands of men on whom the weight of years bore too heavily to allow of them either giving the proper encouragement to scientific advancement and initiative on the part of younger men in their department, or of suitably organizing on a modern basis the teaching that fell to their lot. I venture to say that there is not a single professorial chair in a German university occupied by a man beyond his climacteric of three score and ten, no matter how distinguished his services to science or to education have been in the past, whose retention of his position has not proved a serious hindrance to educational progress. There are cases well known where even at present special departments in great universities are wofully neglected because an old, though perhaps distinguished professor, retains a charge that should have been laid down with advancing years. So long as human nature remains our present human nature, however, the confession of senility incident to a voluntary retirement can scarcely be expected and least of all of men who have had the consciousness of their superiority to others during a long life. The necessity then for a law or custom in the matter is evident. The question is a most delicate one and the period at which retirement should be made obligatory by no means easy to agree upon. The age at which men are at the acme of their intellectual power has always been the subject of disagreement. Aristotle puts it at forty-nine and the recent graduate thinks this entirely too old, while his distinguished professor thinks it altogether too young. Not even the omniscient Aristotle ventured to suggest when men entered on the decline of their intellectual powers.

The late Professor Rokitansky the younger, whose early death at fifty-one in his professorship at Graz deprived the scientific world of a distinguished medical man expressed some very definite opinions on the subject shortly before his death. It was mainly owing to his distinguished father's influence as I have said that Austria owes its present laws, as to the enforced retirement of university professors at seventy-one. The younger professor Rokitansky, who had been especially interested in the question and in an excellent position to study the working of the law, urged that the age limit should be made still younger. He advocated the framing of a law requiring retirement to the rank of emeritus professor, though with the emoluments of ordinary professor at the age of sixty-five. Only where a special faculty unanimously asked for the continuance of an individual in a professorship might the ministry or executive university authority permit service after the age of sixty-five and then for not more than two years at most.

Of course this would seem to be going to the other extreme and such a law would deprive many a German university of the services of great teachers. In Berlin, for instance, it would retire two of the great clinicians, Leyden and Gerhardt, at once, and the third, Senator within the year. These are not the only lights of German medicine who would suffer eclipse and there is scarcely a German university but would feel it. Yet the proposer of the law must have thoroughly realized this and must have been deeply imbued with the necessity for active interference in a matter of serious import to have suggested the seemingly early retirement. Meantime, however, the question remains open and an important one it would seem to be, not only of interest here in Germany, but everywhere in educational circles where the necessity has been felt of some delicate, graceful, and courteous way of shelving talent, not when its usefulness was entirely gone, but when the beginning of its decline brought with it the inevitable deficiency in initiative that makes it unsuitable for the direction of new scientific work, and incapable of imparting that enthusiasm which constitutes the best part of education.

According to a recent article in the *Deutsche Medicinische Press* of Berlin the university professors and lecturers in the medical faculties of Germany are far above the average of mortals in the matter of acuity of vision and absence of baldness. As these are two qualities not usually attributed to medical men generally and especially not to those whose devotion to science has brought them distinction in a professorial career, some of the data of the article seems of special interest.

Out of 210 professors and scientific investigators in the medical faculties of the various German and Austrian universities only 61, less that 30 per cent., wear glasses. This is, one cannot help but think, a considerably lower percentage than obtains in America; statistics in the matter would be not only interesting, but would have, I should imagine, a very practical value for ophthalmologists now that it is so usual to attribute refraction defects to over use of the eyes so much more than to a natural optic weakness. If there is any significance in a certain interrogation that is sometimes put, yet does not seem to demand an answer, who ever saw an ophthalmologist who did not wear glasses? Perhaps it would be well not to include too many of our distinguished eye specialists in the list of well-known physicians if the American statistics are to be really representative and significant. Perhaps, too, it should be the eye whose refraction required no artificial aid that should be set to the work of making out the statistics so as to be sure that lacunæ did not slip into them because of any lack of acuity of vision on the observer's part.

As to baldness the statistics are even more surprising, as

171 out of 210 professors, etc. (nearly 85 per cent.) are still in the possession of practically all their hair and in its original color. Only 21 are bald, only 18 are gray. All of them, of course, are beyond middle life, most of them being well on in years. One is tempted to wonder how many of our friends the gynecologists, whose hair troubles are proverbial in Europe as well as in America, are included in the list.

The writer in the *Medicinische Press* attributes the good eyesight of the doctors and the conservation of their hair to the fact that most of the men who distinguish themselves in medicine in Germany are men on whom great physical vitality as well as mental power has been conferred by Nature. Most of them reach an advanced old age despite years of the strictest application to science and retain their mental powers to the very end. It is getting to be more and more generally admitted in all lines of intellectual work that genius, or at least talent, is practically always associated with a natural substratum of intensest vitality. *Mens sana in corpore sano* is not only a maxim for practical guidance in the matter of physical exercise in after life but is an original condition on which serious scientific work is dependent for its success primarily. Hence, the normal retention of even unimportant natural advantages despite a life of serious application.

Already the first inklings of a noteworthy medical celebration to be held in Berlin at the beginning of next year are coming to light. The Charité Arzte, the association of consultants and residents at the Charité Hospital, Berlin, will celebrate their twenty-fifth anniversary early next year. The new Pathological Institute, at least the Pathological Museum Department, is to be finished by that time and is to be formally opened then. As many of the prominent medical men in most of the German universities have at some time or other in their career been in service at the Charité the assemblage of members will form a distinguished reunion. The celebration will practically take on the character of an inauguration of the New Charité, of which this will be the first department opened. The occasion is the twenty-fifth anniversary of a most important medical society and the initiation of that new era which, in a completely remodeled Charité, is to assure Berlin the position she holds, of European center for medical teaching, and is expected to inspire a good deal of enthusiasm for the celebration and the event will be one that will attract more than passing notice in the medical world.

The special feature of therapeutics in Berlin continues for the moment to be the treatment of rabies by the Pasteur method. Within six weeks after the opening of the new department some dozen of cases had been under treatment. They are practically all cases from the German provinces near the Russian border. They are not, however, the result of any sudden irruption of the disease into German territory. When such cases occurred before this they were sent either to St. Petersburg or Vienna. The expressions of those in charge of the department continue to be those of eminent satisfaction. The dangers of the treatment once so much insisted on in Germany are now considered to be minimal or non-existent. Already movements are on foot for the establishment of similar departments in other university cities.

The medical faculty of the University of Berlin announced at the end of the summer semester that the Paderstein stipendium for the next year was conferred on Dr. Max Koch, a graduate of Berlin. His graduation thesis, of which the stipendium is practically a mark of recognition, was reviewed in these columns just after its publication. Its subject, "The Connection between Atrophy of the Glands of the Gastro-intestinal Mucous Membrane and Pernicious Anemia," is of living interest just now and the review of the immense literature to date, with the actual observations of the writer himself make it of great practical value though his conclusions are but those that have already been gradually gaining acceptance that the changes noted and for a time thought so important are only adventitious, the result not the cause of the anemia.

SELECTION.

THE USE AND ABUSE OF MIDWIFERY FORCEPS.[1]

I.—By R. Milne Murray, M.A., M.B., F.R.C.P. (Edin.), Lecturer on Midwifery and Diseases of Women, Edinburgh School of Medicine; Assistant Physician, Royal Maternity Hospital.

Surgical Midwifery.—I think I am right in stating that the selection of this subject for discussion arose out of the able and trenchant address delivered by the former President of this Section at the Montreal meeting last year. In that address Dr. Sinclair drew attention to what he considered the close relation between many gynecological troubles and the over-frequent and injudicious use of the forceps.

The address contained much to give the reader pause, but its general tenor may be gathered from a brief quotation from it which I venture to make: "Midwifery has during the same period," says Dr. Sinclair, "become also largely surgical—too surgical, and a thesis which I shall endeavor to maintain to-day is, that gynecology has become so largely surgical as the direct result of surgical interference in midwifery practice; the accoucheurs are the providers of material for the gynecologists. . . . The term surgical is employed here with almost exclusive reference to the midwifery forceps."

I am not using too strong an expression when I say that this amounts to an indictment of the present practice of midwifery all over the world; and coming as it did from the Presidential Chair of this Section, it must have caused much searching of heart on the part of accoucheurs on both sides of the Atlantic.

But it was not only on the general practitioner that the

[1] The discussion held by the Section on Obstetrics and Diseases of Woman of the British Medical Association at its recent meeting in Edinburgh, slightly abridged from the report as it appeared in the *British Medical Journal*. A condensed abstract made by our special reporter was published in the MEDICAL NEWS, August 13, 1898. The subject is so important and the opinions of so many eminent men are given that the discussion is deemed worthy of fuller presentation.—Ed.

strictures of the address reflected. If the practice of midwifery were aberrant, no small part of the blame must lie at the door of the teachers of obstetrics. If the practice were loose, the teaching must be greatly at fault.

It could not be supposed that such a statement could be made by one in the position Dr. Sinclair occupies without due deliberation, because it directly implied that one section of those whom he was then addressing was engaged in providing employment for the others, either by reason of gross and culpable error of judgment or by direct malpractice.

The Value of the Forceps as a Surgical Instrument.—I shall best fulfil my duty to-day by raising points for discussion, or suggesting the lines which the discussion should take, rather than by attempting any necessarily inadequate deliverance on the whole subject.

I begin by asking, "What is the special value of the forceps as a surgical instrument?" To Baudelocque is due the statement that the midwifery forceps is the most valuable surgical instrument that has ever been invented, and "with this statement," says Dr. Sinclair, "we are all more or less in agreement." I think there are few here who will cavil at my reply to the question I have just put, if I say that the special value of the forceps is that it enables us to shorten the suffering and diminish the risk of childbirth. If it is to justify the claim of Baudelocque it must accomplish these results in a sensible proportion of cases, because if it is only to be employed at rare intervals to diminish the suffering or even save the life of an occasional mother, while we should cherish it as a valuable component of our armamentarium, we would scarcely place it in the position claimed for it by Baudelocque. Apart, however, from the question of the frequency of its proper use, I may take it for granted that its value consists in the power it gives us on certain occasions of shortening the duration of labor, of diminishing the dangers of the mother, and greatly increasing the safety of the child.

But when we turn to the scope of the instrument and ask what are the indications for its use, we reach highly debatable ground. I daresay if the question were put to twenty individual members of this meeting there would be given twenty distinct answers, all more or less divergent, and some diametrically opposed. Perhaps the one side would best be represented by the answer Dr. Sinclair would give, while that of his anonymous friend, who startled him with the statement that his forceps cases amounted to seventy per cent. of his whole midwifery practice, would adequately represent the opposite; and these two, along with the other eighteen, would give one more instance of the many-sided character of the human mind!

When Forceps Should Be Used.—I shall make no attempt to analyse or classify those hypothetical answers. It will be more useful if I try to lay down a general principle which ought to guide us in seeking the indications for the use of this instrument. I think I can be sure of taking you all with me when I say that *a direct indication for the use of the forceps arises whenever—and only whenever—we are assured that the danger of interference has become less than that of leaving the patient alone.* So simple is this statement, that to some it may seem a mere truism, and to be scarcely worthy of deliberate enunciation. Nevertheless, I believed it is, in the case of some practitioners, just one of those pious opinions which are assented to the moment they are stated, and the moment after practically ignored.

I venture to think it is more than a mere truism, and that it ought to be kept more constantly before us and more strictly acted on than it sometimes is. For let me point out that it implies that the use of the forceps, in practically every case, is a matter of individual judgment. There is no accepted set of rules which can be applied to each emergency, and which will decide for us in each case whether we are to act or to hold our hand. It is for this reason that the question of the proper use of the forceps is often so difficult. Much more than in most surgical operations have we to consider in each case, not one, but many circumstances. If we discover an abscess, or a cancer, we deal with them at once by opening or excising them according to fixed principles, and by methods which have been determined by experiment and settled by experience. But the operation of the forceps comes under a different category. A fetal head and an ovarian tumor cannot be dealt with on the same lines. It is sound practice to remove the latter as soon as it is detected, but the mere presence of a fetal head in the pelvic cavity is not an adequate reason for its summary removal. There are many things to be considered, many things to be taken into account—the state of the passages, the efficiency of the pains, the condition of the child—ere we can justify any effort to supplement or supersede the processes of Nature. Each case must be decided on its merits, and in every case when the question of forceps arises, we must ask, "Is it safer to act or to wait?" We have no justification for interference until we have decided that the danger is in waiting, nor, let me add, in failing to act when we have decided that the danger is in delaying. It is this necessity for individual judgment in every case which renders the employment of the instrument a matter of grave responsibility.

Premature Use of Forceps.—From what I have said, it will follow that a certain number of the instances of improper use or abuse of the forceps are due to errors of judgment—the instrument is employed when it should not be used; or else it is not used in cases when it is indicated. It was to the frequency with which the first error is committed that Dr. Sinclair specially devoted his address last year, and no doubt a very substantial proportion of the instances of the abuse of the forceps comes under this category. But this does not by any means represent all the cases of misuse of the forceps; for while injury is inflicted in many cases by the premature use of the instrument, and in a smaller number by undue delay in its employment, a very large part of the injury to mother and child—and thus a large part of what may be properly termed the abuse of the forceps—is due to faulty technic.

I may perhaps best put it thus: (*a*) The forceps are often used at the wrong times. (*b*) They are sometimes not used at the right times. (*c*) They are often badly

used at both times. The danger of the forceps operation, apart from the risk of septic infection (which, of course, is common to most operations), may be summarized thus:

1. The mother's parts may be bruised, lacerated, or otherwise injured by mechanical violence.

2. The too sudden emptying of the uterus may be followed by imperfect retraction, and, consequently, dangerous hemorrhage.

3. The fetal head may be unduly compressed, lacerated, or otherwise damaged.

Now, in spite of all that has been done and is being done to diminish the risk and suffering of disease by anesthesia, antiseptics, and other means, there seems a lingering doubt in the minds of some as to whether the abolition of the pain and suffering of labor would be an unmixed blessing. This seems to me to be a survival of the same barbarous instinct which prompted the so-called religious objection to the use of chloroform in labor, and is as unworthy of respect. For myself I have no such scruple, and were I able to do so with safety I should gladly abolish every pain after the first, and reduce the duration of labor to a bare minimum. But unfortunately this is not practicable. Physiological labor consists of a series of phenomena which require time for their development; and a grave abuse of the forceps consists in their employment in such a way as to interfere with the proper sequence of the normal physiological events.

Forceps in Undilated Os.—This leads me to consider a group of cases in which we have the most striking illustration of the use of the forceps at the wrong time, namely, their application through an undilated os. There is, no doubt, a small minority of cases in which such an application is, for special reasons, justified and even demanded; but these are few and far between, and the disastrous results following their use in many of these cases are only too familiar to obstetricians. The statistics of this practice, obtained from the results of the Rotunda Hospital under Dr. Johnston's mastership, are in themselves a commentary on the dangers both to mother and child.

Spasmodic Rigidity.—I would draw particular attention to the dangers involved, because I feel sure there is a group of cases falling under the term "undilated os" which is not so generally recognized as it should be, and the non-recognition of which seems to me to account for more damage to the mother's parts than we may at first admit to be likely. Every one is familiar with, and no one can well overlook, the ordinary form of undilated os, in which, either from early rupture of membranes, narrow pelvis, malpresentation, or other cause, the os remains for hours in a half dilated state. If, in spite of such a condition, the use of forceps is for some reason, good or bad, decided on, the operator recognizes the condition, calculates the risk, and, it is to be hoped, does what he can to minimize or obviate that risk to the utmost of his power by careful management. But there is another form of undilated os quite as unsuitable for the forceps operation as this, and which is the more dangerous because it is not always recognized. I am convinced it accounts for the occurrence of by far the larger number of cases of lacerated cervix. For while the delivery of the head through the variety of undilated cervix referred to is always a difficult and often a dangerous operation, nevertheless, it can be done, and is done in many cases, given a proper instrument, the requisite skill, and abundant patience. It is not so with the variety I now wish to consider. Here is the sort of case I refer to. A woman has been in labor for some hours; probably the membranes have ruptured early, and dilatation is slow. Opium possibly has been given, or chloroform has been used, and after a time an examination, made in the absence of a pain, shows the os soft, flabby, and apparently nearly the size of the child's head. The head is probably well down in the cavity, and lying fairly well for the application. Here, then, seems a suitable case—a long labor, a tired woman, perhaps, if I may whisper it, a wearied accoucheur, and most important of all, an os, if not dilated, at least dilatable. A little more chloroform is given, and then without any difficulty the forceps are slipped over the head and, of course, inside the os. By this time a uterine pain, excited by the manipulation, begins, and if the os is now examined it will be found spasmodically contracted round the head and forceps, and not more than half its former apparent size. Unfortunately, it sometimes happens that an examination is not made, and traction is commenced with results which do not require description here. The case is one of partially dilated, spasmodically rigid os, and may be described in physiological language as an example of uterine incoordination, or, popularly, as a uterine stammer. The os during an interval is soft, flabby, and easily stretched; during a pain it becomes tense, hard, and greatly narrowed.

I have several times been asked to see patients in consultation, where the attendant thinking the os was fully dilated, had ruptured the membranes, and found after uterine pains had begun again, that the os was less than two-thirds dilated. The same mistake had arisen—the os was examined in the intervals, and its spasmodic rigidity overlooked. To use the forceps here and to treat the case as if the os were dilated or dilatable is one of the gravest, and, I fear, only too common examples of their abuse. On account of the tension and thinness of its edge, very slight efforts of traction will tear the cervix into the vaginal roof, inflicting frightful injury.

Secondary Inertia.—I need not detain you by dwelling on the dangers of the application of the forceps to a woman in a condition of secondary inertia, and to the almost inevitable results in the shape of deficient retraction and hemorrhage in the third stage and *post-partum*. And I do not doubt that other instances of the use of the instrument at the wrong time will be sufficiently emphasized by one or other of those who follow me in this discussion.

Failure to Use Forceps When Necessary.—Let me then say a word about the second point I raised; namely, that the forceps are sometimes not used at the right time.

Whatever material damage or injury may be inflicted by the injudicious use of the forceps, there is one injury—once common enough, and now rarely to be seen—namely, vesicovaginal fistula, whose disappearance is in great measure a result of the earlier, perhaps often premature, application of the forceps. No more striking instance of the beneficent use of the forceps can be adduced than that which we may point to in the almost total disappearance of this frightful injury. Most men nowadays take care that the long, tedious, grinding pressure of an ill-placed head, on a contracted or otherwise modified pelvis, is never allowed to occur, and the consequent necrosis and sloughing are thus largely avoided.

But I cannot help thinking that the reasonable reaction which has shown itself in many schools against the too frequent use of the forceps may in some measure diminish our vigilance in this matter, and that from an unwillingness to interfere we may unwittingly render possible an undue amount of maternal bruising and other damage. I could not find a better illustration of what I refer to than I do in the "Rotunda Report" for 1896-97. Here there is a record of 56 forceps cases, and in the summary of the indications of their use I find that 45 were treated by forceps on account of "delay in the second stage of over four hours." In the absence of further statistical detail I cannot express an opinion as to whether the forceps in these 45 cases were rightly or wrongly employed, whether it might not have been better to have interfered sooner than the fourth hour in some cases, or to have waited even longer still in others before artificially finishing the labor. The report simply states that "forceps were applied in cases of delay of four hours in the second stage with material benefit to the mother and greater safety to the child, and we consider the results obtained, more particularly as regards the life of the child, amply justify us in not delaying longer" (p. 10).

The objection I would make to a statement such as this in an authoritative report is, that it gives us an impression that the element of time is the primary determining factor. I am quite at a loss to understand why, for example, we should wait in every case for four hours after the os is dilated and when the pains are not advancing the head. To my mind the latter point is the *crux*. If I could assure myself that after dilatation of the os the advance of the head was blocked—either by the size of the head, the resistance of the canal, or the feebleness of the pains—I should not wait a moment before using the forceps. I could not assure myself that this was the case without waiting a certain time, but I am perfectly certain that in many cases I should reach absolute assurance long before four hours had elapsed. If I am certain of this in one hour, why should I wait three more? What do I gain, and what does the patient gain, by my watching her enduring two or three hours of further misery and suffering? If the head is in the brim and shows signs of descending, I shall wait till it descends, because the operation of forceps is easier in proportion to its descent. If the head is in the oblique diameter and shows signs of rotating, I shall certainly wait till the rotation is complete, because the application of forceps is simplest and the delivery safest when the head is in the anteroposterior. But if neither of these things occurs from fault or failure of any factor, I see nothing to be gained, but much to be lost in waiting after I am certain that progress is at an end. The danger of interference is then less than the danger of waiting.

There are many wise obstetric aphorisms, but none wiser than this: "Wait till you see what Nature can effect—not what she can endure." No one need imagine that this can be read as an apology of meddlesome midwifery. As long as Nature is preparing or opening the passages, and molding or advancing the passenger, she is doing what she can do better than any of us, but she sometimes fails, and it is because she fails that Baudelocque's commendation of the forceps is "one with which we are all more or less in agreement," because by its means we have saved women hundreds and thousands of weary hours of useless suffering and preserved countless children alive. Let it not be supposed that I am traversing the practice of the Rotunda Hospital. The report at my disposal gives me no facts on which I could base my criticism; what I suggest is that the mode of stating the grounds of interference is essentially misleading, and I wish to enter my protest against the idea which it conveys that the time element alone is a proper basis for such interference.

If I am asked when, under such conditions, I should apply forceps, I should make a reply in words which I first heard from the lips of my respected teacher and your distinguished President, and which I have never forgotten: "When the passages are in a fit state and Nature fails to advance the head, then I should apply the forceps."

Forceps in Occipitoposterior Positions.—I must leave to others the indication of other cases in which the forceps might be used with advantage when their use is avoided or delayed. But I should like to direct attention to one group of cases in which the forceps might be employed with greater discrimination than is, I think, sometimes used. I refer to occipitoposterior positions of the vertex. We all know that in such cases, when flexion is well marked and when the pains are efficient, descent and forward rotation is the most usual ending, while in those cases in which flexion is deficient, descent is difficult and backward rotation the rule. My own view and teaching in the matter is this—that when flexion is deficient, as shown by the ease with which the bregma can be reached, the sooner forceps are applied after the os is dilated the better. In view of the practice generally recommended in regard to these cases this may seem heroic if not rash. But I confess I have little faith in the attempt at manual rotation; my experience of it in these cases is that it is futile, and on theoretical grounds I have never understood how it can be anything else. When it succeeds it seems to me almost certain that rotation would have occurred without it. For if natural rotation is the result of the action of the pelvic floor on the advancing head, I cannot understand how twisting the head in the canal can develop it when it is defective. If in rotating the head we brought it to bear more firmly on the floor, I could understand that a sound principle was involved,

but we can scarcely claim that we do this. Everything, however, depends on the forceps employed. With the axis-traction forceps, more especially if slightly modified, we can develop flexion and secure rotation in nine out of ten cases, and in the tenth would probably have done so too had we used them soon enough.

Faulty Technic.—Finally, the forceps are abused by being badly used; not only when they should not be used, but also in cases in which their use is indicated. Now I am convinced that to these faults of technic, as I may call them, are due not only the greater number of minor errors in the use of the forceps, but likewise some of the gravest examples of maternal and fetal injury. I venture to refer to a few of them—some of them I regard as of most importance.

The first fault of technic to which I ask attention is one which is still too common. It consists in not employing what is indubitably the most efficient instrument. If a workman chooses for his purpose a tool which is less efficient than some other which is available, he may execute the work, but he does so either less perfectly than he might, or does so with an unnecessary expenditure of time and energy. So if the problem to be solved in the forceps operation is to extract the child with the expenditure of as little force as possible, we fail in that problem if we do not use the instrument which enables us to economise our force to the greatest extent. That this instrument is one constructed on the principles first laid down by the late Professor Tarnier has been long taught by every member of the school to which I belong. Professor Simpson has illustrated the value of the axis-traction forceps by saying that a man who has once used them would as soon think of reverting to the old forceps as a man who could keep a carriage would think of conducting his practice on foot.

When I was a boy I was more or less familiar experimentally and otherwise with a piece of mechanism, the prototype of the modern bicycle appropriately and familiarly known as a "boneshaker." It possessed wheels, a backbone, a saddle, and a steering-bar, just like its descendant, and among other things it had a tire which, if it had no other advantages, was at least durable and puncture-proof. It certainly was a very different affair from the machine on which we see young and old, rich and poor, gliding along noiselessly and almost without effort at five to fifteen miles an hour. Now I should be inclined to say that a man is just as likely to revert to the old instrument after having used the axis-traction forceps as he would be to give up a good bicycle of 1898 for a boneshaker of the early Seventies'. The main argument advanced in favor of the older forceps is its simplicity, and this argument is quite as much in favor of the boneshaker, for its construction was complicated neither by ball-bearings, spring saddles, nor pneumatic tires. But I have heard a practitioner declare that he could do as much with the old forceps as another could with the axis-traction forceps. I would as soon believe that the average man on the primitive bicycle I have referred to could ride as far or as fast, and with as little fatigue, as one on a modern machine.

The Axis-traction Forceps.—To object to the instrument that it is complicated is an argument with which, I confess, I have little patience. That a couple of rods and a handle-bar should present a serious difficulty is an argument scarcely worthy of a grown man.

I may take it that practically it is universally admitted that axis-traction is of great advantage at the brim, and with regard to its efficiency there I need not detain you. The pleasure I have of knowing that many of those I address constantly employ and strongly advocate these instruments is saddened by the knowledge that there are some who listen to me who are not yet convinced of their efficiency, save at the brim. But I am certain of this, that those who have systematically used the instrument in all their forceps cases will bear me out that for once they have proved their efficiency at the brim, they have done so ten times in the cavity and twenty times at the outlet. They will speak of the security of the grasp, the absence of dangerous compression, the ease of extraction, the delicacy with which the proper axis can be ascertained and followed, and the safety to the soft parts which it ensures. They will perhaps, most of all, commend the instrument on account of the facility with which it produces or permits of the production of rotation.

Compare this with the deliverance on the axis-traction forceps I find in one of the recent text-books on midwifery. "The use of the axis-traction forceps is practically confined," says the author, "to pulling the head through a contracted brim; when the head has passed into the cavity it is no better than the ordinary kind. It is only of use, therefore, to pull the head through a somewhat smaller brim than can be passed by the latter. In cases where the difficulty is so great as this, it is in all probability better to turn." This reduces Tarnier's work to a vanishing quantity. And again, in another part of the same book, I find, "they all (that is, axis-traction forceps), however, have the same disadvantage of compressing the head during their application."

I confess it is difficult for one who has used these forceps for nearly twenty years to treat such comments seriously. As to the question of compression, I do not believe that the compression of the head by the axis-traction forceps is as much as ten per cent. of that inflicted by the ordinary forceps. Any one can prove to himself that after the blades are in position and in contact with the head, one-half turn of the screw is all that is necessary to keep them in position. Not infrequently the screw slips out of its catch during traction, and I have delivered many cases in which the screw was off all the time the forceps were in the cavity. When the head is in the cavity, the pressure of the walls, the inward pull of the rods, and the cephalic curve of the blades keep the latter in perfect security on the head. With the ordinary forceps, it is obvious that the harder you pull the more you grip the handles—not in order to hold the head, but to prevent the handles from slipping from your grasp; nevertheless, the head bears the brunt of the pressure.

As to the efficiency of the instrument in the cavity, I have said all that I need say, and as to removing the forceps when the head has reached the perineum, for myself

I should as soon think of leaving the patient in the third stage of labor as of removing the forceps before complete delivery of the head. I am prepared to maintain that in axis-traction forceps, properly constructed and properly used, we have not only a means of accomplishing delivery in cases of delay with safety and success, but by their means we are able to avoid laceration of the pelvic floor in cases in which this would unavoidably occur if left to Nature. For I have long held that deep anesthesia, combined with the skilful use of the axis-traction forceps, is the best treatment for rigid perineum.

The Guiding Principle in Applying the Blades.—The second fault of technic to which I shall direct attention is in connection with the application of the blades. Of course when the head is at the outlet and fully rotated, the application can only be faulty from gross carelessness; but when the head is in the cavity and still in the oblique diameter, a very faulty application is often made. It is still largely the teaching and the practice of the British schools to apply the forceps as far as possible in relation to the pelvic transverse without reference to the position of the head. Now when the head is high in the cavity, or even low in the cavity and not rotated, I am convinced that this is wrong. The result of this practice is that we obtain a more or less oblique grasp of the head, and it follows that, since the blades tend to rest on somewhat sharply curved portions of the head, one or the other inclines to slip off during application, and the difficulty of locking is notorious. Equally notorious is it that the vicious practice of trying to rectify this by twisting the blades into position is a source of danger to mother and child. But apart from this, after locking is effected and traction begun, one of two things follows:

1. The head as it descends rotates, and in doing so throws the forceps into the opposite oblique. This usually happens with axis-traction forceps when rotation is favored. If delivery is effected without removing and readjusting the forceps, extensive damage to the outlet will follow.

2. The head descends without rotating, and engages the outlet in the oblique. This often happens with the older forceps, and is even more disastrous than the former.

I venture to think that the practice of the French school is much sounder. The forceps should be applied to the biparietal diameter of the child's head wherever situated, and then, as the head descends, rotation will bring the blades into the transverse diameter just as the head enters the anteroposterior, and the head, forceps, and pelvis will present proper relations at the outlet. I feel sure that extensive damage to the lower part of the vaginal canal—especially internal laceration of the perineum—is often caused by oblique position of the head or of the forceps at the outlet. The application of the forceps to the side of the head may require more care than the other methods, but we are there to take what care is necessary for the benefit of the patient.

I need not dwell on the objectional results of jerky irregular traction. A uterine pain begins almost imperceptibly and increases in intensity by fine gradations. So should an effort of traction. Only by this can we bring the head and canal into proper relation, and only by this can we develop rotation and minimize the danger of pressure.

The Mode of Traction.—Every year I become more and more convinced of the advantages the axis-traction forceps give us in protecting the perineum from injury caused by undue delay, or laceration caused by faulty mechanism. The procedure I adopt is as follows: As soon as the vault touches the floor the forceps are held between the finger and thumb of the right hand, while the left is placed over the fundus. I may say at once that I never in any circumstances "support the perineum." The left hand enables me to control the retraction, to detect the beginning of a pain, and often to aid the action of the forceps by efficient pressure. I press the chloroform as far as will keep the patient quite still. Extraction is effected by gentle pressure on the traction-bar, the rods and shanks being kept just touching. With certain exceptions I act as far as possible only with a pain taking care always that traction is effected in such a way as to maintain the advance of the suboccipito-bregmatic diameter. In this lies the secret of success, for by means of these forceps we can restore or maintain the relation of this diameter to the outlet—a relation which is often disturbed by peculiarities of the pelvis, and more often by alteration in the shape of the head, caused by molding or swelling of the scalp, associated with long and difficult labor.

There is one group of cases, however, which form a marked exception to the rule of extracting with a pain. Not infrequently we find in elderly primiparæ that every uterine pain, when the head is low, is accompanied by a spasmodic action of the muscles of the floor, which for the time narrows the vulvar orifice and throws the perineum into a state of intense rigidity. It is in cases of this type that we find instances of perineal laceration. In such a case I deepen the anesthesia and carefully avoid traction, save in the intervals of pains. Delivery is simple and easy thus, for the orifice is often wide enough when not spasmodically contracted. This is another instance of incoordination, and must be treated in this special way. Without forceps such cases will continue in labor for hours, and as the spasm only passes off when the pains are checked by chloroform, this alone is not enough.

Conclusion.—Whether the forceps are to be an engine of disease and death, or a means of protection alike to mother and child, will depend upon whether they are used with a seeing eye and an understanding heart—upon whether the obstetrician is prepared to put aside all adventitious considerations, "the uneasiness of the gossips"—even the demands of the patient, most of all his own convenience, and interfere when, and only when, he has deliberately assured himself that the risk of interference is less than the danger of waiting. If this principle is unswervingly followed and carried out with reasonable skill, Baudelocque's commendation will still hold good, and the forceps will maintain their high place among the products of the ingenuity of man.

II.—W. S. PLAYFAIR, M.D., LL.D., Consulting Obstetric Physician, King's College Hospital, and Emeritus Professor of Obstetrics in King's College.

Over-action and Reaction.—Dr. Playfair said that he had always believed that the surgical development of gynecology was due to such things as ovariotomy, removal of the appendages, hysterectomy, and the like, which no one could say were produced by the accoucheurs; but granting that it was only a harmless exaggeration, it was none the least necessary to reply to it. It must at once be admitted that Professor Sinclair's address would do a great deal of good. It would warn against excess, it would teach medical men to be more careful than many had been. But did that touch the principle? There was no improvement in medicine which was not open to the accusation of having been abused. Take trachelorrhaphy, which Professor Sinclair himself cited as an example of a great improvement in gynecology. Surely the use in England of that occasionally valuable operation had been greatly hampered by the ridiculous way in which it had been overdone in a sister country. Again, with the very useful "rest cure," had not the abuse of massage made that very useful remedy stink in the nostrils of right-minded people? So with the most recent fashionable remedy—the "Schott cure"—and many others which could be named. All this should warn against abuse, but it should not be used as an argument against proper use. Most of those present were probably entirely unaware of the frightful evils which followed the old practice. His old friend and fellow student, Professor Simpson, would remember how common in their student days was that awful accident "vesicovaginal fistula," now hardly ever seen, its abolition being the direct result of modern practice. Again, Dr. Sinclair had not even alluded to one of the great glories of modern midwifery—the almost total abolition of craniotomy, formerly so common as to be an every-day procedure. Surely this was an enormous gain. Who could say how many lacerated cervices and torn perinea should be taken to be equivalent to even one human life saved from the deadly perforation? At any rate he, Dr. Playfair, must insist that his book on midwifery should not be blamed for any such over-frequent use of the instrument, since he had most carefully safeguarded his teaching on this point.

III.—W. J. SMYLY, M.D., Late Master of the Rotunda Hospital, Dublin.

The Time to Use Forceps.—Dr. Smyly said that safety in the use of the forceps lay in adhering as closely as possible to their employment under favorable conditions, that is, when the head presented and had passed the brim by its greatest transverse diameter, when the os was fully dilated or dilatable and the membranes ruptured. Sometimes it was necessary to employ the instrument under less favorable conditions, but then the indications must be more definite than when, as under the conditions indicated, they were employed merely to save suffering. Under unfavorable circumstances they should only be employed in case of danger to the mother or child. The high forceps was, therefore, an operation not to be taken lightly in hand, and the importance of time in molding the head to the brim should not be forgotten; a head might come through with molding which could not have been brought through with forceps at an earlier stage. Time was of no account in midwifery nor any indication for the use of forceps.

IV.—PROFESSOR FEHLING of Halle.

Frequency of Forceps Operations.—Professor Fehling, speaking as a teacher, said that the chief mistake of students and practitioners was to employ forceps in the absence of strict indications, hence the bad lacerations seen were due to the increasing frequency of forceps operations; while, as Hegar and Cullingworth had shown, the mortality in childbed had not been diminished. In ordinary cases three points must be insisted on: the head must be under the brim, well rotated, os dilated; if so, then the forceps might be employed when there were indications in the condition of mother or child. If there were any danger for one or another, it was justifiable to operate in the absence of these three conditions. He wished to emphasize the advice that students should be taught not only on the phantom, but in the labor-ward. At Halle, during the last four years, the forceps had been used in 290 out of 3000 cases, but only 55 of these were in the clinic (3.5 per cent.); the greatest number occurred in the polyclinic. Two mothers died from eclampsia, two from rupture, which had occurred before the forceps were applied; of the children, 6.2 per cent. were still-born. Most of the operations were done by the students, the others by the assistants. Professor Fehling felt sure that to have done one operation under the supervision of the master prevented the young physician from making mistakes later on in practice.

V.—SIR WILLIAM PRIESTLY, M.D., M.P., Consulting Obstetric Physician, King's College Hospital.

Meddlesome Midwifery.—There had been of late years such improvements in the construction of forceps and in the recognition of the suitable conditions for their use that obstetricians might well feel more confidence in their value, and there could be no doubt that a great saving of life and of injury had been effected both to mothers and children.

The danger perhaps now was lest the use of forceps should be pushed too far, and it was well that conservative influence should be exercised to restrict them within proper bounds. He was glad to recognize that the reader of the paper gave a timely warning in this respect. It was still true that "meddlesome midwifery" might be bad practice, but this did not necessarily mean that forceps must not be used more frequently than formerly, always supposing that the best forms of instruments were selected, and that the conditions at the time of their application were such that there was the smallest possible risk of injury to both mother and child.

To apply forceps before the passages were sufficiently dilated, and especially when the os uteri was imperfectly dilated or rigid, was to incur great risk of laceration, and there was then so much more force to overcome that the attempt might well fail. It was quite true, as had just been stated, that the natural forces would often mold the fetal head to the maternal passages in such way as

to facilitate delivery when forceps applied above the brim had failed to effect delivery.

VI.—WM. STEPHENSON, M.D., Professor of Midwifery in the University of Aberdeen.

Preventive Midwifery.—Use and abuse must be taken together, and the second term made to limit that intended to be included in the first. Frequent use and abuse was the idea. Frequency in the use was the great advance in midwifery during the latter half of this century. It was well to remember that the movement originated in the ranks of the profession, and not from the teachers. He would prefer that the general practitioner would be heard to-day, and not the teacher. He could not accept the rule adopted by some leading teachers—that instrumental aid was to be given only when there were symptoms of danger to mother or to child, or to both. It was the old cry: Wait till Nature begins to fail. The true principle was: Aid whenever you can without deranging the mechanism, so as to avert symptoms of danger. But Dr. Murray had fully vindicated the present frequent use against the fallacies and strictures of those who would have men return to the custom of a hundred years ago. Dr. Stephenson further discussed the point that with the axis-traction forceps there was a delicacy of manipulation, which a skilled man, while retaining the use of the ordinary handles, could exercise more especially in aiding rotation in O.-P. positions. He found it, however, impossible to discuss that question in full on that occasion.

VII.—ARTHUR V. MACAN, M.B., F.R.C.P., King's Professor of Midwifery, Trinity College, Dublin.

The Principle of Administration.—I would first wish to explain Dr. Playfair's observations about Dr. Labath's statistics of his cases of craniotomy during his mastership of the Rotunda Hospital, which he said were so numerous that it was not considered worth while to keep any statistics of them. This is not so, but each master takes the records of his mastership away with him, and unless he has published them no one else can supply them.

Next as to the dictum that Dr. Milne Murray has given us, namely, that the forceps should be applied when the danger of delay is greater than the danger of delivery by the forceps. This seems quite simple, and at once gains our assent. But when we try to translate it into practice we find that it requires great skill and experience to know when the danger of the operation is less than the danger of delay. It is, therefore, my practice to impress on my students the fact that the chief danger of delay lies in want of antiseptics, and that if they were careful of the latter the want of the former is less important.

Personally I consider that the greatest triumphs of the forceps are the cases that require the least traction. If the force of resistance is the least greater than the driving force there can be no progress. Here the slightest traction with the forceps will effect delivery, and this seems to me the greatest triumph.

Before going on to the axis-traction forceps I would like to point out that the ordinary double-curved forceps can be used—indeed, ought always to be used—as an axis-traction instrument. Traction in the direction of the handles of the double-curved forceps is always wrong, and traction by both hands, one at each end of the handle, drawing the latter in a series of parallel lines toward the chest of the operator, is essential to making the instrument an axis-traction instrument. If the axis-traction use of ordinary double-curved forceps were properly taught it would be quite unnecessary for the instrument-maker to stamp on one of the blades of the forceps, "Left, lower, first." This seems to me to presuppose a very low standard of intelligence and knowledge of the instrument in the man that is about to apply them.

Nor can I agree with the view that the forceps should not be applied to the head until the largest diameter of the head is past the brim. For in such cases, if the head is already fixed to the brim, and the indications for delivery are urgent, the only alternative is craniotomy. Indeed, in cases of flattened pelvis it is not infrequent to feel the head being flattened inward and springing outward, according as the traction is applied or relaxed, and on examining the head afterward we find a spoon-shaped depression on the child's head, caused by the pressure of the sacrovertebral angle against the head. The axis-traction forceps which we use in Dublin is that introduced by my friend Dr. Neville, which, as far as I can see, is quite as effective, and much more simple and easy of application, than any other axis-traction forceps with which I am acquainted.

VIII.—J. M. MUNRO KERR, M.B., F.F.P.S.G., Assistant Professor of Midwifery, Glasgow University; Assistant Physician, Glasgow Maternity Hospital.

Mode of Grasping the Head.—I desire, owing to the enormous number of questions involved in such a discussion as the present, to confine myself entirely to one point and it is to an abuse, or rather misuse, that I wish to refer. It is the general teaching, and it will be found in the text-books of Galabin and Playfair, that forceps should be applied without reference to the diameter of the child's head. Now, I consider this bad teaching, because there is a lack of exactness in it. The forceps should be applied with reference to the diameter of the child's head. If the head is low down in the pelvis, it is always possible to grasp the head transversely. If the head is high up it is more difficult; with care, however, even in these cases the head can be grasped nearly transversely, and the more nearly transversely it is grasped the better. If it be admitted—and I think it will be—that the more nearly transversely the head is grasped the better, then the general teaching I have referred to is defective, because it will be a chance whether or not the head is grasped in the best manner possible. Further, if cases of flat pelvis be considered, it is of the very greatest importance to have regard to the child's head and grasp it exactly anteroposteriorly. A slight departure from such a grasp will very readily result in injury to the child and injury to the mother from the forceps slipping.

IX.—J. W. BYERS, M.D., Professor of Midwifery and Diseases of Women and Children, Queen's College, Belfast.

Cases Requiring Forceps.—Professor Byers thought that all would be agreed that the indications for the use of the forceps had been well put by Dr. Milne Murray: "Wait until you can see what Nature can effect; don't interfere until she fails." When danger arose either to mother or child, it was desirable to act at once; but there were other cases in which there was no doubt that, even in the absence of distinct evidence of danger, all other conditions being favorable, the use of the forceps was justifiable. He was entirely in favor of the use of axis-traction forceps, and it was only fair to Dr. Milne Murray to say that it was to this type of instrument he alone referred in the discussion. He was with those who said that full dilatation of the os was necessary before using the forceps, but in certain exceptional cases (as in eclampsia or sometimes in aged primaparæ) they might be called for earlier. As to using forceps at the brim, he preferred to apply them rather than to turn in a flat pelvis. As to the use of the forceps where the head had come to the perineum, he preferred not to take them off, but to continue their use until the head was fully delivered, but the point was to let the head come out not, as the majority of books taught, by extension, but in a gliding manner.

X.—W. JAPP SINCLAIR, M.D., F.R.C.P., Professor of Obstetrics and Gynecology, Victoria University, Manchester.

Unskilful Use of Forceps.—Dr. Sinclair expressed modified approval of the axis-traction forceps, but could not imagine a time when the ordinary long forceps would be discarded in favor of the axis-traction instrument. His address in Montreal had been misunderstood to some extent, and he proceeded to speak of Dr. Playfair's criticisms. He reiterated a statement of his position in regard to the use of forceps and the teaching of midwifery. There was at least sufficient ground for reconsidering current practice, and the forceps must be used unskilfully as long as they were used by men who had not received exact teaching so as to diagnose the position of the head before the instrument was used.

XI.—ROBERT JARDINE, M.D., Physician, Glasgow Maternity Hospital.

The Axis-traction Forceps in Contracted Pelves.—Dr. Jardine said that in Glasgow they had to deal with a very large number of contracted pelves. Last year they had ten per cent. of these cases requiring major operations. Like Professor Byers, he believed axis-traction forceps gave a better chance to both the child and mother. He had delivered children weighing 8½ lbs. alive through a true conjugate of three inches, and he always used the forceps in preference to turning. There was one precept to which he attached importance—never to turn after failure with axis-traction forceps. He had never seen a child saved in this way, but he had had cases of rupture of the uterus brought into the hospital which had been caused by this. Craniotomy was not an obsolete operation as some of the former speakers had intimated. In cases of this kind it should be done. In regard to putting on the instruments before the os was fully dilated, he said there were a few cases in which it was necessary, but such cases were very few. If the patient were under chloroform, it was, as a rule, possible to dilate manually. Theoretically the transverse grasp of the child's head was the right one, but practically it was often impossible, and he had seen over and over again that when the child was delivered the grasp was oblique. With a good instrument like Dr. Milne Murray's, it mattered not what the grasp was, as there would be no damage done to the head.

REVIEWS.

A SYSTEM OF MEDICINE BY MANY WRITERS. Edited by THOMAS CLIFFORD ALLBUTT, M.A., M.D., Reguis Professor of Physics in the University of Cambridge. Volume VI. New York: The MacMillan Co., 1898.

THIS volume, the last but one in this superb system, is devoted to the respiratory organs, the pleura, and the circulatory system. The diseases of the arterial system are omitted because of a delay on the part of Dr. Welch of Baltimore on "Thrombosis and Embolism." The editor, in a rather humorous way, apologizes for this author's delinquency, which is attributed to his work, never to be forgotten, against the antivivisection bill now pending in Congress.

If anything this volume is even better than its predecessors. A detailed review is impossible in these columns, but a few of the leading articles will be mentioned. Dr. Pye-Smith writes in a scholarly way on pneumonia, giving the minutiæ of its bacteriology in the clearest possible manner. The veteran Dr. Samuel West has an article on intrapleural tension full of clinical value. Professor Foster has written a lucid article on the general macroscopic and microscopic features of the blood, and the editor contributes monographs on chlorosis, functional diseases of the heart, mechanical strain of the heart, and aortic diseases. An interesting contribution is that of Dr. Thomas Oliver on the effects of electric currents of high pressure, the author attributing deaths by electricity to sudden cessation of the heart's beat. Dr. Robert Muir's paper on leucocythemia is admirable and is beautifully illustrated.

The volume is marked by literary excellence as well as scientific accuracy and well bears out what we have previously emphasized—that Allbutt's system is a classic of the highest grade.

THE JOHNS HOPKINS HOSPITAL REPORTS. Report in Gynecology. Baltimore: The Johns Hopkins Press, 1898.

THIS volume contains but two articles. One is an exhaustive analytic study of seventeen hundred cases of abdominal section from the standpoint of intraperitoneal drainage, by Dr. J. G. Clark. This work is already familiar to readers of gynecologic literature, and it is necessary only to mention the author's conclusions, based on wide reading, abundant clinical experience, animal experimentation, and autopsies. Mechanical drainage he condemns and offers in its place so-called postural drainage obtained by elevating the foot of the patient's bed, salt solution of a normal strength having been introduced

into the abdominal cavity before this has been closed. The saline fluid, gravitating toward the diaphragm where it is absorbed, drains the abdomen of fluids which are the result of operative interference or of disease which it is impossible to remove by mere mechanical means. For the details of the technic the reader should refer to the original article which is well worth the careful study of every abdominal surgeon.

The second paper is by Dr. James E. Stokes, on "The Etiology and Structure of True Vaginal Cysts." The author points out the difference in structure and descent of cysts found in the posterior wall, the lateral walls, the vault of the vagina, and shows that such cyst may arise from inclusion, from embryonic peculiarities, or from the glandular structure of the vagina. The paper is well illustrated by histologic drawings.

THE OFFICE TREATMENT OF HEMORRHOIDS, FISTULA, ETC., WITHOUT OPERATION. By CHARLES B. KELSEY, A.M., M.D., Late Professor of Surgery at the New York Post-graduate Medical School and Hospital. New York: E. R. Pelton, 1898.

AFTER reading this little volume, one wonders why these short clinical lectures were ever put into book form. The first of them tells what most surgeons know, that the packing, and sometimes the curetting of fistulæ, will lead to a cure. The second emphasizes the fact that the rectal specialist should be an abdominal surgeon and capable of performing plastic operations on the female, which is laudable. The third and last speaks of the abuses of colostomy and urges that such operations shall always be done after due deliberation, which is not remarkable. The author takes occasion as well, to refer to his own low mortality after this operation, which is commendable.

DISEASES OF THE STOMACH. A text-book for practitioners and students. By MAX EINHORN, M.D., Instructor in Clinical Medicine in the New York Post-graduate Medical School and Hospital; Visiting Physician to the German Dispensary. Second revised edition. New York: William Wood & Company, 1898.

THE first edition of Einhorn's "Diseases of the Stomach," published less than two years ago, was received with such favor that it at once occupied the niche among authoritative text-books on this side of the Atlantic that Ewald's treatise on the same subject holds in Germany. This second edition differs but little from its predecessor, although a few slight additions and alterations have been made.

The book is divided into fourteen chapters, the subjects being treated in a thoroughly scientific manner and sufficiently in detail to allow of the student obtaining an exact working knowledge of each. The first chapter deals with the anatomy and physiology of the stomach, and then follow in turn others on methods of examination, diet, local treatment, organic diseases with constant lesions; functional diseases with variable lesions; abnormal conditions with reference to size, shape and position; nervous affections, and the condition of the stomach in diseases of other organs.

Einhorn's work in connection with direct electrization of the stomach is so well known that the chapter on this subject will be read with particular interest. His very large experience with the method, as perfected by himself, and the almost uniformly good results obtained, have placed the procedure in the list of those upon which the general practitioner as well as the specialist can rely with complete confidence in those cases in which it is indicated.

It is unnecessary to refer more in detail to Dr. Einhorn's book. This second edition will but enhance its popularity, and it is safe to assume that the edition will be exhausted within a period as short as was the first.

THERAPEUTIC HINTS.

For Fissures of the Nipple.—

The following method of treatment is recommended as effecting a cure within three or four days:

Cleanse the nipple with a one-per-cent. bichlorid solution and dry with sterilized cotton. Cover fissures with thiol-collodion (ten per cent.), avoiding the openings of the milk-ducts. Order the use of a nipple-shield until healing is completed.

For Tropical Dysentery.—According to observations made on the island of Ceylon, ATTYGALLE testifies to the satisfactory results obtained by the administration of chlorid of ammonium every four hours, with the addition, if indicated, of opium and cannabis indica. The patients were given a diet of milk and arrow root. In the majority of cases the stools ceased to be bloody, and the colicy pains disappeared after three or four days of this treatment.

Tonic Pills in Locomotor Ataxia.—For the tonic treatment prescribed after a course of mercurials the following formula is used by ERB:

℞	Ferri lactatis . . .	gr. xl–gr. lxxx
	Ext. cinchonæ . . .	ʒ i–gr. lxxx
	Ext. nucis vomicæ . .	gr. v–gr. xv
	Ext. gentianæ, . . .	q. s.

M. Ft. pil. No. XL. Sig. One or two pills three times a day after meals.

Salicylic-Acid Ointment in Acute Rheumatism.—Since a small amount of salicylic acid is absorbed through the skin, its external application is recommended as a valuable adjunct to internal medication, and as a substitute for the latter when improvement begins. Its advantages lie in the relief afforded the stomach and in the suggestive action of the local treatment. The turpentine should be omitted from the following formula as soon as the superficial epidermis is destroyed:

℞	Ac. salicylici Ol. terebinthinæ Lanolini	aa . . .	ʒ iiiss
	Adipis . . .	q. s. ad.	℥ iii.

M. Ft. ungt. Sig. External use. Cover with a dry bandage.—*Sternberg-Lodz.*

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXXIII. NEW YORK, SATURDAY, OCTOBER 1, 1898. No. 14.

ORIGINAL ARTICLES.

THE ABUSE AND DANGERS OF COCAIN.[1]

BY W. SCHEPPEGRELL, M.D.,
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WHEN cocain was first brought to the attention of the medical world it was heralded as an unalloyed blessing to mankind, and one which would revolutionize surgical methods. In some respects this expectation has been realized. The extraordinary effects of cocain in surgery, especially in the minor branch, have surpassed even the most sanguine hopes, and its application has become such a routine practice that we but little realize that fifteen years ago this drug was practically unknown. In many cases in which a general anesthetic and its attending danger would not be admissible, and in which the patient is unwilling or unable to tolerate the physical pain of a minor operation, this useful alkaloid allows the necessary surgical procedure to be carried out without pain or inconvenience, although not without a certain element of danger, as was claimed by those who first employed it.

In no part of medicine has cocain been of more service than in the treatment of diseases of the upper respiratory passages. This is in a great sense due to its ease of application, as the mucous membrane absorbs the various solutions of this drug easily, an absorbability which is less in the throat than in the nose but in each location sufficient to obviate the necessity of a submucous injection. Not the least value of cocain in the nasal passages is the contractile effects on the erectile tissues, which enables the operator to inspect the field more thoroughly, whether for examination or for the necessary manipulation for operative procedures. Many pathologic conditions no doubt would escape observation but for this useful effect of cocain.

While admitting, then, that cocain has proved a great benefit to medicine and surgery, and that it has contributed not only to the comfort of the patient but also to the success of the physician by enabling him to operate more easily and thoroughly, it cannot, however, be said to be an unalloyed blessing. In fact, so fully have surgeons realized the evil effects which the indiscriminate use of cocain has caused that many believe it has been productive of more harm than good. This was recently illustrated by the remarks of some of the speakers who expressed this opinion in a discussion before the American Laryngological, Rhinological and Otological Society at its meeting at Washington during May, 1897. As these men have had unusual opportunities for noting the good and evil effects of cocain, their opinion is certainly entitled to much consideration.

That the danger of the toxic effects of this alkaloid is not fully understood is demonstrated by the fact that in the large majority of cases in which the effects are serious or even fatal no drug to counteract its toxic effects has been at hand. These toxic effects are by no means rare, as is demonstrated by a study of the literature of this subject, and when it is realized that by far the greater number of fatal cases do not find their way into medical literature it can be more fully understood that the application of cocain is not without its attending danger. The knowledge of this should cause one to make the same preparations in administering cocain as when a general anesthetic is used, as the difference of danger is but relative. The agents for this purpose which will be found most useful are nitrite of amyl, nitroglycerin, atropin, whisky, ammonia, and digitalis. The most rapid method of relief, and one most easily applied, is the horizontal position, and this should be resorted to at the first appearance of toxic symptoms.

The toxic effects vary according to the amount of cocain used and the susceptibility or idiosyncrasy of the patient, the latter, as in the case of morphin, being the most serious consideration in the application of this drug, as it sometimes develops in patients in whom it is least expected. In all these cases the element of fear should be considered, with its depressing effects upon the heart and circulation, thus predisposing the patient to the toxic effects. The application of cocain should, therefore, be tentative, this applying especially to hypodermatic injections in which the action of the drug cannot be controlled when once it has left the syringe. On this account, also, cocain should never be used in the nasal passages in the form of a spray; it should be applied by means of a small pledget of cotton so that the administration can be discontinued at the appearance of the first toxic symptoms.

Among the symptoms due to cocain poisoning are extreme pallor, profuse perspiration, unconsciousness; frequent, feeble, irregular and intermittent

[1] Read before the Orleans Parish Medical Society, May, 1898.

pulse; dizziness, nausea, in some cases great agitation, and occasionally loquacity; more rarely, blindness, deafness, lividity, muscular rigidity, a feeling of impending death, convulsive twitchings, paralysis, and convulsive or suspended respiration. The earliest symptoms should be carefully noted and counteracting measures at once instituted. When the symptoms are sufficiently urgent the administration of medicines by the stomach should not be relied upon, but the more rapid and efficacious method of hypodermatic injections at once resorted to. The majority of symptoms disappear quickly or within a few hours after the application of the cocain, but they are sometimes prolonged for several days. Among the latter may be noted obstinate headache, insomnia, hallucinations, numbness of the extremities, and prostration.

The writers who have recorded the evil effects of cocain in their practice are sufficiently large in number, although probably small in proportion to those who have not reported their unfavorable cases. Among those may be mentioned Ricke,[1] Maurice Schmidt,[2] Paul Heymann,[3] B. Pitts,[4] D. Mowat,[5] Moizard,[6] Booth,[7] A. W. Addinsell,[8] Szuman,[9] and S. Mitchell.[10] A case of chronic convulsions which lasted three hours in a ten-year-old child is reported by Jacoby,[11] and in one case reported by Haenel[12] the epileptiform convulsions lasted for five hours.

The literature of cocain anesthesia demonstrates the fact that death has occurred from its administration in many instances. Whether this fatal result is due to the amount of cocain administered, to a peculiar idiosyncrasy of the patient, to omission of proper antidotal or restorative measures, or to the lack of their prompt application, is naturally difficult to determine. Many cases, probably, are due to a combination of these causes. In a case reported by Abadie[13] death followed an injection of a 5-per-cent. solution of cocain for an operation on the eyelid. There was loss of consciousness within ten minutes, the respiration stopped, and the face became cyanosed as if from asphyxia. There was partial resuscitation after great effort, but death followed the same evening.

The urethral injection of cocain has been a fruitful source of fatal results. In a case reported by Simes[14] the patient was a man aged twenty-nine years in whom a 20-per-cent. solution of cocain was introduced into the urethra by means of a long-nozzled syringe which passed about four inches into the canal, the object being to perform an internal urethrotomy. Toxic symptoms at once developed, the muscles of the face twitching, the eyes staring, pupils dilated, frothing at the mouth, face much congested, respiration labored, and finally epileptiform convulsions. The respiratory function was labored, the action of the heart became irregular and slow, and the entire surface of the body cyanosed. Death occurred twenty minutes after the first convulsion. At the autopsy the brain and lungs were found congested, the right side of the heart was empty, and the left filled with clots of blood. In this case the susceptibility of the patient was obviously aggravated by the large dose injected into the rapidly absorbing mucous membrane. An unrecorded case of a fatal issue from the injection of cocain into the urethral canal occurred in this city about three years ago. Of five cases of cocain poisoning reported by R. W. Haynes of Los Angeles, Cal.,[15] two had a fatal issue. One of the latter cases was due to the injection of a solution of cocain into the urethra of a child to facilitate the passage of a sound. In an article on cocain poisoning by J. B. Mattison[16] four fatal cases of recent date are referred to, all following the use of a 4-per-cent. solution of the drug. Two of these were also urethral cases, the dose in one being 1 grain, and in the other $\frac{1}{3}$ of a grain. In the third case a 4-per-cent. solution was applied to a blistered surface, and in the fourth, a rectal case, $\frac{2}{3}$ of a grain in two doses, with an interval of ten minutes, was used. In the third case the symptoms were excitement, convulsions, and death, all within one minute.

Rhinolaryngologic literature has not furnished its quota of the reports of fatal issues from the use of cocain. Whether this is due to modesty or to the fact that the application of the drug in the upper respiratory passages may be more accurately controlled, it is difficult to state. The enormous extent to which cocain has been used, and the fact that fatal issues from other causes have been reported as faithfully in this branch of medicine, would favor the latter explanation of the lack of mortality from cocain in this region. Dentistry has not been so well favored in this respect, this being due to the fact that the gingival membrane has only a limited power of absorption, and the anesthetic effect of cocain is usually obtained by the injection of the drug. A fatal case is reported in the *Zeitschrift f. Zahnheilkunde*, Berlin, September 25, 1890. The patient, a woman aged twenty-nine years, was apparently healthy but quite nervous. The extraction of a tooth was painless and nothing abnormal was noted. The operator withdrew from the chair to obtain some water for the patient and on his return found her motionless. Physicians were summoned and artificial respiration practised, but without success. The quantity of cocain injected was $\frac{1}{3}$ of a grain. A useful moral in this case is that, if the dentist is not capable of treating a case of cocain

poisoning he should not administer the drug except in the presence of a competent physician.

In one case reported by R. W. Haynes,[16] death occurred from the injection of a solution of 4 grains of the drug into the gums for the extraction of a tooth. In addition to these fatal results, the records of dentistry show many cases in which the toxic effects of cocain have been exhibited without, however, being followed by a fatal result. Grassmann,[17] reports a case which is remarkable for the fact that the solution was not injected but simply applied to the gums, the effects developing after five minutes, when no more than ¾ of a grain had been absorbed. L. H. Broughton[18] reports a case in which 3 minims of a 20-per-cent. solution were placed in the cavity of a tooth, the application being followed by irregular and slow respiration, retarded pulse, and total unconsciousness. The patient recovered under the use of strychnin, which the author believes to be antidotal for cocain poisoning. In a case reported by Von Isoo[19] 1¼ grains were injected into the gums of a man of strong physique. The toxic symptoms which developed were of a severe character, palpitation, vertigo, and syncope, the effects not disappearing for several days. George Bock[20] reports a case of unconsciousness, blindness, and other toxic symptoms which followed the submucous injection of cocain into the gums.

Experiments on animals have shown that, in acute poisoning, the mode of death is that of asphyxiation, this being corroborated both by observation of the animals during life and by *post-mortem* examination of the bodies. An interesting observation shown by these investigations[21] is the effect of cocain upon the bodily temperature. The majority of experimenters who have tried this drug find that when injected intravenously into the jugular vein of dogs it produces a marked rise of the bodily heat. Langlois and Richet[22] also found that the variation of this bodily temperature by artificial means specially influences the power of the drug over the nervous system, and that animals whose temperature is raised by a warm bath before the dose is given rapidly become convulsed and die, the increased temperature of the body by the drug over and above that already produced artificially aiding in the production of a fatal issue. They have noted that cooling of the body prevents such a termination. These authors[23] have also shown that the convulsions following the injection of cocain into the animal economy are identical with those of cortical epilepsy, and claim that it is in all probability true, as a result of the discovery, that stimulation of the motor region of the cortex produces more marked effects than ordinarily occur under such circumstances.

While a close investigation of otolaryngologic literature has failed to furnish me with an instance of a fatal issue from the use of cocain, reports of the toxic symptoms are by no means rare, and, judging from the extensive—I had almost said reckless—manner in which this drug has been used this occurrence must have been by no means infrequent. A number of authors have called attention to the toxic effects of cocain, among whom may be mentioned H. Richards, D. B. Delavan, J. W. Gleitsmann,[24] and R. O. Cotter.[25] McN. Whistler[26] has twice seen vertigo and threatening syncope after applying to the nasal cavities a solution of cocain stronger than 4 per cent., but Schellenberg of Wiesbaden[27] reports the case of a patient in whom a 2-per-cent. solution of cocain, used in the nasal cavities previous to cauterization, was sufficient to develop severe toxic symptoms.

It would be well to state in this connection that too much importance should not be attached to the strength only of the solution, the principal item being the amount of the alkaloid employed. The application of a 5-per-cent. solution is not necessarily less dangerous than one of 20 per-cent. strength unless the amount used is specified. One dram of the former would contain 3 grains of the drug, whereas 5 minims of the latter contains but 1 grain, which would be less likely to develop toxic symptoms than the former. This point is emphasized for the reason that surprise is frequently expressed at the dangerous effects produced by a weak solution, the quantity of the solution used not being taken into consideration. A case of serious collapse from the use of cocain after an operation on an accessory cavity is reported by Baden of Denmark,[28] and F. Fox[29] gives an instance in which spraying of the throat for fifteen minutes with a 2-per-cent. solution of cocain produced weakness of the lower limbs, staggering, depression, and finally unconsciousness lasting for several hours. The amount of cocain that could have been absorbed by even this weak solution, when continued for fifteen minutes, is quite sufficient to explain the toxic effects produced. The application of a 4-per-cent. solution in a case of glossitis, which was followed by the most threatening symptoms, is reported by W. Richert.[30] Recovery took place under restoratives, but a second application produced the same effects. Gourand[31] refers to a case in which a 4-per-cent. solution was applied to the tonsil of a young man, and Fischer of Saaz[32] reports the case of an actor suffering from chronic pharyngitis in which the application of a 4½-per-cent. solution was used, both being followed by violent toxic symptoms.

In this regard it would be proper to state that the toxic effects of cocain in the pharyngeal or oral cav-

ities do not develop as readily from simple applications as in the mucous membrane of the nostrils, owing to the far greater power of absorption of the Schneiderian membrane. This is so rapid that cocain symptoms may be produced from its simple local application almost as quickly as when injected hypodermatically into other parts of the body. The pharynx and tongue possess this absorbability to a much less degree, and the application requires more perseverence, not only on account of the lack of absorption, but also owing to the fact that the solution is quickly diluted by the saliva which is secreted. A somewhat remarkable case is reported by Castex,[33] in which the application of a 20-per-cent. solution of cocain to the nostril was followed by severe local symptoms, the patient two days later ejecting from the naris a membrane analogous to one formed in fibrinous rhinitis. This circumstance might have been considered only in the light of a coincidence had not a previous application of cocain produced a similar result.

A number of substitutes for cocain have recently been suggested, such as eucain "A" and "B," holocain, etc., the advantage claimed for each of these drugs being its less toxic character. The limits of this article will not permit me to discuss the relative merits of these drugs. They have not come into general use and have not been applied in a sufficiently large number of cases to enable one to form a just valuation of their merits. This circumstance alone should be sufficient to prevent one from speaking too strongly of the absence of danger in using them, as recently has been done on several occasions. The method of Schleich in applying cocain is an important modification and is now very extensively used. The small amount of the drug in the formulæ of this method minimizes its toxic effects and it should be given the preference whenever applicable.

In addition to the toxic symptoms which may arise from the application of cocain one must consider a more remote effect but one which is far-spread in its evil and which now offers a serious menace to society. I refer to the development of the cocain habit. I regret to state that this habit follows more frequently from its application in the nose and throat than in any other branch of medicine, and in the majority of cases it results from the ill-advised prescription of the physician. In acute coryza in which it is so often used cocain temporarily relieves the turgescence of the tissues, the sneezing, and the irritability, and when once this dangerous agent has been placed in the hands of the patient, it is frequently a *facilis descensus*. The patient who applies this drug, and frequently the physician who prescribes it, little realizes that this beneficial effect is soon followed by dilatation of the cavernous tissue, due to paralysis of the vasomotor nerves, and that its continued use causes chronic congestion of the tissues which requires the cocain to be applied more and more frequently until even this remedy fails. That this effect frequently develops is shown not only by medical literature but also by the fact that many physicians use this as a routine measure not only for their patients but even for themselves. Hay-fever is another pathologic condition which encourages the abuse of this drug, and it frequently lays the foundation of a chronic nervous affection of the patient. A number of such cases have come under my observation and many have been recorded. It is to be regretted that the application of cocain in these affections has been recommended, and even in text-books on rhinolaryngology. Thus I find a well-known author who recommends a 4-per-cent. solution of cocain in acute rhinitis and acute pharyngitis, and another, an aurist, who recommends a 10-per-cent. cocain spray (!) in acute coryza.

The development of the cocain habit in this manner is an easy process, and the results are not only as dangerous as those of the morphin habit but are claimed by some to be even more rapid. Among these effects is a rapidly developing marasmus characteristic of this form of intoxication. The psychologic symptoms are quite marked, consisting of apprehension, delusions, and hallucinations, which sometimes resemble those developing in chronic alcoholism. There is insomnia, loss of appetite, and frequently complete impotence. The severity of these symptoms indicates that the substitution of cocain for the morphin habit is an exchange of no benefit to the patient, and the withdrawal of the former is sometimes followed by more severe reaction than in chronic morphinism. Among those who have called attention to the evil effects of cocain in this particular are Lennox Browne,[34] J. W. Stickler,[35] J. H. Woodward,[36] Seifort,[37] Obersteiner,[38] and Loewenberg.[39] The latter records two cases of young women who suffered from serious toxic symptoms, as insomnia, visual and auditory hallucination, attacks of mania and melancholia, anorexia, and gastralgic pains. The origin of the habit was the use of a snuff powder which contained cocain. Instead of using three or four pinches per day these patients took the powder in its entirety, the writer estimating that 1½ grams (23 grains) were used daily. In a case reported by A. P. Luff,[40] the patient used a 5-per-cent. solution of cocain in the nostrils on account of attacks of coryza. The remedy was found to be so pleasant that the patient became

addicted to its use and continued it for three years. At this time he was completely unfit for work and suffered from dyspepsia, chronic constipation, and palpitation. A similar case is reported by Finkelnburg,[41] in which a woman developed the cocain habit from using a snuff consisting of cocain and starch (5 to 100). The symptoms present were excitability, absent-mindedness, insomnia, hallucinations, dilatation of the pupils, and a disposition to cardialgia. An interesting case is reported by Maurel[42] in which a lawyer became a slave to cocain inhalations, this having been prescribed three years before for persistent asthma. The faculties had apparently become heightened and more headwork was done, but symptoms of brain degeneration, with unsteadiness of purpose and will-paresis had developed, the patient all the while believing himself to be improved.

Physicians, who suffer so frequently from chronic morphinism, are not exempt in regard to the cocain habit. The same facility of its use which is so often responsible for the development of the morphin habit also applies here, and unless the evil effects of the use of this drug are fully understood the number of cocain habitués will soon be greater than those suffering from morphinism. Two cases in physicians are reported by Zenner,[43] one of whom suffered from the cocain habit alone and the other from mixed morphin and cocain. In the first case the object of the cocain was to relieve fatigue due to work, but the physician soon developed an irresistible craving for the drug and abandoned himself entirely to its toxic influence. He lost his practice, squandered his property, and was brought to the brink of ruin. After four attempts at abstinence within two years he finally succeeded but still remains an attendant at the asylum where he was treated. In the second case cocain was used as a substitute for morphin. The delusions and hallucinations characteristic of cocain delirium developed to a marked extent in this case. At one period the patient used 60 grains of cocain hypodermatically per day. Ineffectual attempts had been made to discontinue its use but he finally died from tetanus after injury from stepping on a fork. A case of mixed addiction—morphin and cocain—is also reported by Laury,[44] the habit for the latter drug having been acquired by its use as a substitute for the former. The effects were of the most disastrous character, and Laury regards cocain as a toxic agent far more formidable than morphin on account of the rapidity and intensity with which the sensory, motor, and intellectual derangements develop under its use.

Investigations on animals have shown that in chronic cases of cocain intoxication there is a marked hyperemic condition of the central nervous system which presents a contrast to the other organs which are anemic.[21] Albuminoid degeneration is especially marked in the ganglionic cells of the spinal cord and the nerve-cells of the heart ganglia; it is present also, but to a less marked degree, in the muscular fibers of the heart, in the ganglionic cells of the medulla oblongata, and in the hepatic cells. In these last three is found an accumulation of glycogen. In chronic poisoning the degenerative processes are found to have advanced further in the cells of the spinal cord and medulla, minute cavities, atrophy, and hyalin degeneration being noted. In the heart there is fatty degeneration of the muscular tissue; in its nerve ganglia there is fatty degeneration, minute cavities and simple atrophy; and in the liver, atrophy of the hepatic cells is present. The vascular system is most affected in the spinal cord, there being cellular proliferation and hyalin degeneration of the coats. In the heart and liver an atrophic condition of the tissues is found, also a swelling of the endothelium of the capillaries of the cardiac ganglia.

In the majority of cases in which the cocain habit is established a prescription of the physician is responsible for the evils which result. When such a remedy is placed in the hands of a patient for an ordinary coryza, hay-fever, and many other conditions in which there is transient or only apparent benefit from its use, the habit is easily contracted, and many druggists, unfortunately, are prepared to supply all of the deadly drug that the patient may demand. In view of these considerations, the rule has a substantial foundation that cocain should never, under any circumstances, be prescribed for the patient's use, and above all, for the nasal cavities, where the application is made with such facility and from which many of the most severe cases have resulted.

A pecular phase of the cocain habit which has developed in New Orleans and in a number of other cities in the South is the contraction of this habit by the negroes. The extent to which this has spread can be easily verified by druggists and in police circles. It is not used in the manner generally prescribed, but a few crystals of the drug are snuffed into the nostrils, not on account of its contractile effects on the nasal mucosa, as is usually the origin of this habit in the Caucasian, as the nasal passages of the negro are normally quite patulous, but on account of its exhilarating effects. The physical and mental wrecks which soon result from this vicious habit attest to its pernicious effects.

While admitting the danger and evil results of the abuse of this drug, we should not, on the other hand, go to the extreme in condemning it in its

entirety, as has recently been done on several occasions. That this should be the case, however, is not unnatural, being the return swing of the pendulum of the early enthusiasm with regard to it. What is needed is that one should have a proper realization not only of the benefit but also of the danger of its application. The medical profession should be made thoroughly acquainted with the complications which may arise from the use of cocain, and the evil of placing such an agent in the hands of a patient. The druggist should be compelled to restrict the sale of this as well as of other toxic drugs to the prescription of the physician. As stated before, however, cocain should never be placed in the hands of the patient under any circumstances, as the habit is so easily acquired. In this manner we may retain the use of a valuable drug, and, by exercising proper care, eliminate its evil effects.

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ACUTE DELIRIUM.[1]

BY H. R. COSTON, M.D.,
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THE causes of acute delirium are not very well understood. Laverand reports a fatal case produced by a spiritualistic *séance*,[2] Spatling, a case from overwork,[3] and Potts[4] reports finding the pneumococcus in the fluids from a case of the disease. This was probably a mere coincidence, or possibly sufficient care was not taken to sterilize the instruments used in making the bacteriologic examination. Prout[5] reports a case with *ante-mortem* thrombi in the circle of Willis; but these were possibly a result rather than a cause of the disease. The most extensive article I have seen dealing with this subject is that of Dr. H. C. Wood in the *American Journal of the Medical Sciences*, April, 1895. Dr. Abbott made the bacteriologic examination in a case reported therein and his report is as follows: "I have not succeeded in finding *anything* either by microscopic or culture methods in the material taken from the meninges of your case on Saturday."

Acute delirium may follow or develop during other diseases. Potts relates a case, fatal the third day, following carbuncle of the upper lip. It may also arise, seemingly, *de novo*, for often one is unable to find any causative agent. Both sexes are alike liable to it. It is a disease of adult life, both extremes of life being partially exempt. From fourteen to forty-five years is the age most liable to the disease. More cases occur under thirty than afterward. I believe it to be a toxemia expending its force upon the cortex cerebri. It possibly is an auto-intoxication due to deficient elimination, or to the absorption of waste materials which should be thrown off by the emunctories, or to overwork, either mental or physical. Kraft-Ebing thinks the disease due to hyperemia with irritation, and, as a consequence, exudation, which causes pressure on the nerve-cells. In the latter stages this exudation amounts in quantity to an edema, but this hyperemia and exudation are results rather than causes. Heredity plays no part in its production.

[1] Read before the Middle Tennessee Medical Society.
[2] *Annals Univ. Med. Sci.*
[3] *New York Medical Journal*, May 19, 1894.
[4] MEDICAL NEWS, June 30, 1894.
[5] MEDICAL NEWS, August 18, 1894.

The disease usually begins very suddenly and the first impression made by the patient on his family and friends is that he has "gone crazy." Occasionally the attack is preceded for a few days by distinct prodromic evidences of cerebral disturbance. I have had three cases under my care and in each of them the onset was very sudden.

Case I.—Female, aged fifteen years; seen in consultation with Dr. Hatcher of Hazlegreen, Ala. Previous history good; mother died in childbirth; father and one sister living and healthy. No history of insanity or other cerebral troubles on either side of the family. A paternal cousin is an epileptic. The patient menstruated at twelve and has been regular ever since; period then due. She was of excellent family and had always been very modest and extremely chaste in her language.

Dr. Hatcher was called to her in the early part of the night of October 24, 1893. She was very restless and slightly delirious, using uncouth language, complaining bitterly of pain in her head, also somewhat of pain in her hips and back. There was great motor excitability, the patient desiring to be in constant motion, and occasionally cursing and abusing those about her. He gave morphin hypodermically, and bromid internally. She steadily grew worse, and at dusk, October 25th, I saw her. She was sitting up before the fire talking rapidly and swearing with almost every breath all the oaths in the vocabulary. No words were too foul to pass her lips. She recognized every one and spoke to me, calling me by name, although it had been three years since I had seen her. When I offered to place the thermometer under her tongue she cursed me and said she did not want that nasty thing in her mouth and placed it in the axilla. Her temperature was 101° F.; pulse, 100. The pupils were about normal — possibly slightly contracted. Sense of hearing was extremely acute. After one had talked with her a few minutes and left her for a short time she would speak to him as if she had not seen him for days. having no recollection that the visitor had left her only a few minutes before. Although she knew everybody she could not talk rationally. There was absolute anorexia, but no nausea or vomiting. The bowels were constipated and action of kidneys sluggish, but the urine was normal. She did not try to fight the attendants but tried to destroy everything she could get her hands on. As she was growing worse we stopped the morphin and gave her 30 grains of chloral. As a result, she slept five hours but awoke worse than ever. She jumped out of bed, caught up a guitar and played a bar or two and then smashed the instrument over a chair and cursed violently. I gave her another dose of chloral, 15 grains, but this did not produce much sleep but kept her quiet and dozing for several hours. I had given her calomel and aloes and in the morning a good action of the bowels was secured. She continued to grow worse. Sulfonal, trional, paraldehyd, etc., were tried, but hyoscin hydrobromate in large doses gave the best results; after taking $\frac{1}{200}$ of a grain she would sleep from six to eight hours. She died on the thirteenth day from exhaustion. She was never rational, but for five or six days before she died the delirium was more of a typhoidal type and the physical excitement was not nearly so great; indeed, it was almost absent because of the complete prostration. The highest temperature was 102° F., the lowest 100.5° F. The bowels were constipated all the time. For several days before she died she was apparently blind, the pupils being widely dilated.

It is of importance to carefully watch the temperature in these cases, both for diagnostic and prognostic reasons. It very seldom rises above 103° F., or falls below 100.5° F. Patients usually live from ten to fifteen days, though they may die in three or four days, as illustrated by the following:

Case II.—Female, aged thirteen years. Family history good; no consumption; no insanity; no epilepsy or other cerebral disorders; no drunkenness; parents and large family of brothers and sisters living and healthy. Had never menstruated and signs of puberty just beginning to appear. Temperature in axilla 100.5° F.; pulse, 110. The patient was very delirious, cursing, blackguarding, rolling and screaming. She complained bitterly of headache. Pupils slightly dilated, but reacted to light. Bowels costive; no nausea or vomiting. I at first thought this was a case of hysteria, but soon discovered my mistake. She died suddenly at the beginning of the fifth day while sitting over the commode.

The great physical excitement deserves careful attention, as in no other disease have I ever seen such universal and constant motion. The rapidity of exhaustion is remarkable. A robust person weighing 150 pounds will rapidly lose 50 pounds. The urine is usually diminished in quantity and often has to be withdrawn by a catheter. Vision is weakened and may be lost entirely for several days and then recovered, as will be shown to have occurred in one of my cases. I believe that in fatal cases blindness usually occurs before death, but I cannot be positive on this point. The sense of hearing is extremely acute, the patient starting at the least noise, declaring devils are about her. The sense of smell in one of my cases was increased very considerably. All the patients I have seen have had delusions of some kind. The sense of touch may be normal at first but later becomes benumbed. If sitting on a chair or bedside the feet and legs are moving as if trotting a baby on the knees. The arms and hands are in constant motion as if washing dishes, churning, or working a pump-handle, while the muscles of the trunk sway the body back and forth or into various positions. The third and last of my cases brings out many of the above points.

Case III.—Female, aged twenty years; seen in consultation with Dr. Jean of Lincoln, Tenn. Sin-

gle, robust young woman, weighing 145 pounds. Menstruated at twelve, but had never been regular. Early in menstrual life the menses would appear every two weeks; later they would sometimes miss five or six months. She was a stout country girl, raised to work, milk, cook, churn, or do the family washing, as the case demanded.

Family history perfect. The patient had had typhoid fever four years previously, and measles when a child. She was taken when at church Sunday with what was thought to be a chill, but the slight fever was not sweated off, and the delirium was out of proportion to the amount of temperature.

I was called the following Tuesday, August 13, 1895. So much did the shaking and general physical excitement resemble a chill that the messenger stated that the patient had a chill and they thought it was of the congestive type as she was still shaking, not having gotten entirely over the Sunday shake. The muscular tremor, pain, and delirium were not so marked Monday as they were then or had been on Sunday. I reached her at 2 P.M. She was sitting on the edge of the bed and it seemed that every muscle in her body was in rapid motion. She recognized me and asked that I do something for her and then drifted into all kinds of foolish talk. Dr. Jean was giving her a hypodermic of morphin when I went in. After a few minutes she was more quiet physically.

My first impression was that we had to deal with an aggravated case of hysteria, and so expressed myself, but when I had an opportunity to make a careful examination I found the pulse 100, the temperature 101° F., pupils slightly contracted, bowels constipated, action of the kidneys limited, skin dry, anorexia, no nausea, no vomiting, and, of more importance than any other single symptom, that she did not remember that I had been with her only a few moments before. The delirium, while constant, was not of that vile, profane, uncouth nature of the two preceding cases. She would talk of her menses in one breath, of her sweetheart in another, and then of the ailments of some one else, in a few moments talking of a dozen different things. Her hearing was extremely acute and the least noise would cause her to scream for protection. The sense of smell was also unusually acute. If I had been smoking she would quarrel with me about it as soon as I came in. Her body was in constant motion, being thrown in all directions, the feet and legs going all the time, making it difficult to keep the bedcovers on her. She would roll from one side of the bed to the other and then back almost constantly. Morphin would quiet the muscular tremor somewhat, but had no effect on the delirium, unless it was to make it worse. Heart and lungs were normal. There was considerabie tenderness of the left ovary.

She lost flesh very rapidly and would, I think, at the end of ten days, not have weighed more than 100 or 110 pounds. We discontinued the use of morphin and gave her fluid extract of ergot, bromid of potash, and chloral hydrate, and during the night gave hydrobromate of hyoscin, gaging the dose by the effect, but never giving less than $\frac{1}{100}$ of a grain, and often three times that quantity. We used sulfonal, trional, duboisin, etc., but nothing gave the good results obtained from the hyoscin. At the end of a week, when the physical excitement had abated, we gave her strychnin and digitalin. We also employed enemata or cathartics to unload the bowels when necessary. Her temperature varied from 100° to 103° F., but was usually about 101° F. Her pulse varied from 100 to 135 or 150. About the tenth day of the disease it was found that she was totally blind, though the sense of hearing and smelling was very acute. At this time the physical symptoms were at their worst, and then began to improve gradually. The blindness lasted four days, and then sight slowly returned, but two weeks later she was unable to see the hands of a watch.

The mental symptoms began to improve a week after improvement was first noted in the physical symptoms. When the physical symptoms began to improve the appetite returned and she rapidly gained flesh and strength. Two weeks after I had ceased my visits she had a slight relapse, but being sick myself at the time I did not see her; Dr. Jean and the family tell me it was nothing to compare with the first attack. I saw her a few days ago—two years after recovery—and she seems in perfect health mentally, and weighs 150 pounds, but under excitement there is yet some jerking of the muscles, especially the right hand and arm. She has no recollection of my seeing her while she was sick.

Let us examine the points of interest in these three cases: Concerning the cause of the first two I am unable to arrive at any conclusion; the third was probably caused by worry on account of the non-appearance of the menses. All of the patients were constipated; all had great motor excitement; all were delirious; all had fever—100° to 103° F.; all had rapid pulse—100 to 130 or more; in two the pupils were slightly contracted at first, but all were dilated later on; in one blindness occurred which lasted four days, and I believe the two who died were blind before death occurred, or that the vision was extremely dim; all had severe headache; in all the sense of hearing was increased; in one the sense of smell was also increased, which was probably true of the other two but was not noticed; tactile sensibility was normal or slightly increased in all at the beginning, but after a few days it was diminished; all had insomnia; in all the action of the kidneys was diminished, but this was probably due to the limited amount of water taken into the system; in all the action of the bladder was weakened and occasionally required the use of the catheter; all rapidly lost flesh; all could recognize the doctor but could not talk rationally; in no case was there nausea or vomiting; no paralysis; and in the patient who recovered there was no memory of anything that occurred during her illness.

The first patient died in two weeks; the second died in four days, and the third was beginning to improve at the end of two weeks.

The symptoms, in a few words, are: Elevation of temperature, rapid pulse, absolute insomnia, acute hearing, dimness of vision, wild hallucinations, outbreaks of great violence, and great profanity and vulgarity from the most refined and gentle of girls. The patient sees devils, scorpions, lizards, and rats; tears her hair; beats herself or the wall with her hands; throws her feet in the air; destroys anything she can get her hands on, but shows no disposition to fight; great motor excitement; the ability to recognize friends and inability to talk rationally; forgets in a few moments that she has seen you. At the end of a week or ten days she gradually passes into a typhoid condition and dies within fifteen days in coma. Death may occur in from three to five days, in which case it occurs during a paroxysm.

I can readily see how a case of acute delirium could be mistaken for one of typhoid fever if not seen until exhaustion has set in, unless one is careful to obtain a thorough history of the case. Folsom[1] says typhoid patients are sometimes sent to the asylum as cases of acute delirium. The regular rise of temperature, the eruption, the diarrhea, all make the diagnosis of typhoid easy, and if doubt remains, the bacillus of typhoid may be found.

Acute delirium may be mistaken for hysteria for a short time, but the clinical differences are so marked that the mistake will soon be corrected. The hysterical patient may not emaciate, she may have retention of urine, but the secretion is abundant; she will not have the temperature so constantly elevated; one will detect the hysterical patient at every point making use of all means to gain sympathy, but the patient with acute delirium neither desires nor tolerates it. Hysterical patients are not usually profane or vulgar.

Acute delirium and acute mania are more frequently mistaken for each other, and the differential diagnosis is more difficult to make, but with care it may be done. The symptoms of acute delirium are much graver, the course briefer and more definite, and the temperature is elevated in acute delirium and lowered in mania. The exhaustion is very rapid in acute delirium while the maniac will continue to rave for months with little perceptible loss of strength. Mania is a conscious delirium, the patient being aware of what he is doing and taking every advantage of his attendants. Acute delirium is an unconscious delirium, the patient never trying to take any advantage, and, although he recognizes those about him at the time, five minutes later he does not remember to have spoken to them. In mania the appetite is usually enormous, while in acute delirium it is always absent. Mania is preceded by marked prodromata, while the prodromata of acute delirium are never marked and often absent. In mania the face is often flushed and the sclerotics injected; in acute delirium it is pallid and there is no injection of the sclerotics. Acute delirium terminates in death or recovery in two or three weeks, while mania usually persists for months.

Wood, in the paper already referred to, sums up thus: "The symptomatic differences between acute delirium and acute mania are found in the suddenness of the onset of acute delirium, in the rapidity of development of typhoid symptoms, and especially in the presence of a pronounced febrile reaction." Kraft-Ebing is quoted as saying that if in any case of mania the temperature rises to 105° F. it strongly indicates the presence of acute delirium; but it should be remembered that any inflammatory complication will cause a rise of temperature.

The pathology of acute delirium is little understood. I regret that in neither of my fatal cases was I allowed to make an autopsy. There is hyperemia of the cortex and membranes, which is rapidly followed by edema and choking up of the lymph-spaces with blood-corpuscles. Minute hemorrhagic foci are found in the cortical substance and there may be diminished consistence of the brain.

Dr. Guiteras reported as follows on Dr. Wood's case, previously referred to: "No gross lesion was apparent except that the membranes were congested, but not opaque. . . . Fresh sections into the brain substance showed well-marked congestion. . . . The inflammation process affects the blood-vessels, the lymph-channels, and the connective tissue. . . . There is nowhere to be found in these tissues any tendency to liquefaction or suppuration. . . . No bacteria or other abnormal contents are found in the blood-vessels. . . . Ganglion cells and protoplasm show no structural change. . . . No evidence of degeneration of the myelin." Certain it is we do not really know what the pathology is, for the changes found are insufficient to account for the symptoms present. My opinion is that the cause of death is the impression made on the cortical cells by a microbe, or the ptomains produced by a microbe, though what these changes are we do not know.

Comparatively little has been written concerning the treatment of this disease. Osler says he would not hesitate to bleed freely, but I think we should select our cases in which to employ this measure. In fulminant cases, such as Case II., above reported, I believe bleeding would be of service and

[1] Pepper's "System of Medicine," vol. v.

regret that I did not employ it, but owing to the extreme rapidity of exhaustion one should avoid all measures calculated to depress the patient. If bleeding is resorted to at all it should be in the very beginning of the disease. Cold may be applied to the head with good results. The bowels should be well emptied by the use of calomel. Ergot may be given for its effects on the blood-vessels, but I have little faith in it; if used, it is best given hypodermically. Bromid and chloral may be given freely. Paraldehyd caused quiet sleep in one of my cases, but it has to be given by the mouth and is therefore not so useful as drugs which may be given under the skin. Duboisin has many friends, but in my hands it has failed to come up to its recommendations. Sulfonal and trional are useful, but owing to their limited solubility in water are inconvenient to administer. Trional is by far the preferable drug of the two. Morphin alone is positively harmful, but may be given advantageously combined with hyoscin. Hydrobromate of hyoscin, in doses of from $\frac{1}{60}$ to $\frac{1}{20}$ of a grain, far exceeds all other remedies that I have ever used in any form of insanity. It must be given freely. I have never seen any bad results from its use, and in a case of acute melancholia with absolute insomnia of a week's duration, which I had the pleasure of seeing in consultation with Dr. Davis, in which morphin and the bromids had absolutely no effect, I gave $\frac{1}{10}$ of a grain of the drug at a single dose, and the girl was asleep in two minutes and slept eleven hours. She made a good recovery. After a large dose the patient will gasp a few times and if one is not well acquainted with the action of the drug—not from reading alone, but from bedside observation— one will fear that immediate dissolution is impending. If the patient is left alone she will be all right, but administer restoratives and the like and she will be very apt to die. When exhaustion has set in strychnin should be given in oft-repeated doses. The heart should be supported with digitalin.

During the entire course of the disease an effort should be made to nourish the patient with liquid food. When the crisis is reached stimulants should be given in the form of egg-nog. The room must be kept absolutely quiet from the beginning of the attack and more than two persons should never be permitted to remain in the room at once. The bladder should be emptied regularly with the catheter and the bowels opened daily with enemata.

Dr. Senn Resigns His Position in the Army.—At his own request Lieutenant-Colonel Nicholas Senn, Chief Surgeon of Volunteers, was honorably discharged from the service of the United States September 21st. Dr. Senn has returned to Chicago to resume his professional work.

THE VALUE OF ELECTRICITY IN GYNECOLOGY.[1]

BY W. E. FORD, M.D.,
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THE usefulness of any therapeutic agent or of any single surgical procedure is not determined so much by the enthusiastic advocates who are especially skilled in the matter, as upon the evidence of the average practitioners who are doing the great bulk of medical and surgical work in the world. An agent that is even fairly successful in the hands of the great majority of educated physicians cannot be justly condemned because there are experts in the same field who secure more brilliant results by other means. Sober-minded people are not very much impressed by the enthusiastic utterances of those who claim to secure marvelous results by any single therapeutic agent, but the fact that enthusiastic writers claim altogether too much for any new method or agent should not wholly condemn it. Time alone settles the question of usefulness of any therapeutic agent or procedure. The prejudice which to this day exists regarding electricity in gynecology or in any other branch of medicine or surgery, is not altogether unjustifiable. In some form or other it has been used for so long a time, and the fact that its influence is mysterious, has kept it before the mind of the profession as long as medical records have been kept.

The earlier experimenters who announced astonishing results from the use of electricity in sickness were rarely scientific men, and very frequently were not physicians at all; and even down to the last decade electricity has principally been used by quacks. External therapeutic agents received very little intelligent attention from medical men during all those years when drugs were given in heroic doses. Massage, and the various forms of baths, when I was a student, were looked upon with very little favor by the so-called regular profession. But calomel has not ceased to be a useful agent simply because it is no longer given in the heroic doses of the olden times. Massage has come to occupy a useful and dignified place alongside of various kinds of baths in the treatment of different disorders.

It was unfortunate for electricity that its revival upon a scientific basis, with the introduction of instruments of precision which not only regulate the quantity of electricity to be used but also enable us to record the results in scientific terms and thus show what it really can do, came with such enthusiastic and vociferous claims as to its universal efficacy on

[1] Read at the Twenty-third Annual Meeting of the American Gynecological Society, Boston, May 24, 25, and 26, 1898, in discussion of the topic: "Has Electricity Ceased to Be a Useful Therapeutic Agent in Gynecology?"

the part of the few men. Modern surgical gynecology was developed at about the same time and gave such brilliant results that more conservative measures were ridiculed by many who would acknowledge nothing but the knife as the savior of womankind. In exactly the same way hypnotism, which was making really wonderful advances, was relegated to obscurity by the discovery of ether and chloroform. There is no doubt that electricity would have held the first rank as a useful agent in gynecology, even in the treatment of fibroid tumors of the uterus, had not aseptic surgery reduced the mortality of abdominal operations to such an astonishing degree within the past few years. It is as unfair as it is unwise at this time to say that all therapeutic agents are useless which do the work that may be more brilliantly done by surgical procedure in the hands of a few expert operators. It is not true that operative work which is so successful and so brilliant in the hands of a few is safe or even justifiable in the hands of the many; but lesser procedures, not involving the same risks and accomplishing satisfactory results in perhaps a slower and more tedious way, must and ought still to be recognized and advocated for the relief of minor ailments.

There are many things in gynecology which electricity does very much better than any other agent which we now know. Its field is limited and fairly well defined, and within these limits electricity may be used, not only with safety but with great advantage by us all. Perhaps there is no better way of stating this subject concisely than to mention certain conditions that are very markedly benefited by this agent, upon which all fair-minded operators of considerable experience would agree.

Cases of amenorrhea in young women, not dependent upon true anemia, but rather in connection with plethora, in which there is an undersized or undeveloped uterus due to perimetric inflammations which have resulted in slight bands of adhesions about the broad ligaments, cutting off the blood-supply, are not only very important as a class but they resist every method of treatment except that by galvanism. Again, amenorrhea following long, exhausting nervous affections with or without anemia, is in almost all instances relieved by faradism applied but a few times. This last class of cases is, of course, not so important as the former, but, nevertheless, after insanities and the graver nervous disorders, the tendency to relapse is much lessened by the early establishment of this function which usually has been suspended.

Simple metritis, where the ovaries and tubes are not infected, is successfully treated by galvanism, as is simple metritis due to subinvolution. Curetting and packing is more brilliant but not always a more certain method of relief; and owing to the fact that a single curettement is not always sufficient, a surgical procedure is not in all cases more speedy. Perimetric inflammations without the formation of pus, leaving exudates in the broad ligaments with more or less fixation of the uterus and ovaries, is as successfully treated by galvanism as by surgery. In these cases the amperage of the current must be large in order that the electrolysis may be secured. Collections of pus within the tubes or about the ovaries, or in pockets back of the uterus, always prohibit the use of galvanism.

Dysmenorrhea dependent upon a neuralgic tendency or upon the presence of slight bands of constriction about the Fallopian tubes, without pus formation, is more speedily and more permanently relieved by the intelligent use of galvanism than by any other means Obstructive dysmenorrhea, in which some of us have less faith than we used to have, is more speedily relieved by the slitting of the posterior lip of the cervix, thorough divulsion, curetting, and packing. It will be found, however, that these cases are not so numerous as those in which painful menstruation is due to the causes first mentioned. Even in these cases where there is a pin-hole os, and an undeveloped cervix with a flexure, galvanism brings about a cure in the majority of cases. The total amount of misery, disability, and attendant nervous disturbances produced by the conditions mentioned would seem to be almost as great as that produced by fibroid tumors and kindred grave affections. Of course, the mortality is less, but if unrelieved it is doubtful whether these simple cases may not develop into the most serious affections.

Up to this point I think no one will dispute the superiority of electricity over other agents and methods, if the physicians have been in the habit of seeing much gynecological work in private practice and have given electricity serious consideration. There are other disorders which can fairly be said to belong to surgical gynecology, but in which the patients refuse operative procedure and in which electricity used as a palliative or as a more slowly curative agent is decidedly useful. Hydrosalpinx is such an ailment which, though rare, I have repeatedly seen entirely relieved by galvanism. Subinvolution dependent upon an infection after childbirth, where there are no purulent collections about the tubes or ovaries, may be relieved and still allow the patient to pursue her ordinary avocation, a matter not to be treated lightly among working women. Small fibroid tumors embedded in the wall of the uterus, causing inconvenience by reason of weight and pressure, may

not only be successfully treated by galvanism, so that they lessen in size and become stationary for many years, but they may also be caused to entirely disappear in some instances. I have never yet seen a large fibroid tumor degenerate from the use of galvanism or become changed in any way so that it could not be operated upon as easily after the use of electricity. The charge that galvanism used with any degree of skill in cases of large fibroids renders them inoperable, is not based upon any known fact.

Some ten years ago, when hysterectomy was attended by a higher mortality, and when my own skill as an operator did not warrant me in removing large fibroids, in instances in which the patient refused to have a total extirpation by other more successful operators, I used galvanism in very large currents after Apostoli's method in a large number of cases. During the past five years I have advised the removal of fibroids by the knife, and now generally perform this operation in preference to any trial with galvanism. I have been surprised, however, within the past year to find a number of these cases of ten-years' standing in which there has been no increase in the size of the tumor, and little if any recurrence of pain, the subjects being able to work and refusing operation for total extirpation, even though the dangers are very slight. This in no case relates to bleeding fibroids, or to purely subserous growths.

In the clinic established at St. Luke's Hospital two years ago for working women only, I urged upon the attending physician the value of galvanism in the class of cases I have mentioned. He expressed strong objection to its use on the ground that previous experience in Philadelphia and Boston, where he had seen a large amount of the best surgical work of a gynecological nature done, had proved that it was not only useless but dangerous. I insisted, however, and now there is no more enthusiastic advocate of the use of electricity in the treatment of the minor gynecological disorders of the working classes than this physician.

I am firmly convinced, therefore, that electricity is useful in gynecology, that it will hold its place, and that many who have abandoned it for more brilliant operative procedures will resume its use. Those who are not giving their entire time to surgical gynecology, but who must care for the minor cases of this kind while also doing general medical and surgical work, will continue to testify to its usefulness.

Smallpox Quarantine against Mexico.—Notice has been given to the Mexican Central R. R. officials that no passenger is permitted to enter the United States unless he can show evidence of successful vaccination.

BICYCLE URETHRITIS.

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FOR a time after the advent of the modern bicycle the male perineum, as a medical and surgical subject of discussion, bade fair to rival its analogue of gynecologic and obstetric fame. Lately we have heard less of the theoretical argument concerning the proper shape of bicycle saddles, and the alleged dangers to the sensitive organs involved in the fashionable straddle, yet it seems likely that in the average male rider the deep urethra, the prostate gland, and the base of the bladder are, indeed, subjected to a considerable degree of pressure and bumping; but whether, when these parts are perfectly healthy, any ordinary amount of this pommeling of the perineum can produce disease, I think exceedingly unlikely.

I have had under observation during the past three or four years several sore urethræ, and tender, swollen prostate glands, each case at first appearing to be due to the injurious pressure of a defective bicycle seat, but careful inquiry and examination have always revealed that there was still another cause for the prostatic or urethral inflammation.

CASE I.—A. W., a clergyman, aged about forty-five years came to me complaining of tenderness in the region of the prostate, and slight difficulty in urinating. These symptoms had come on gradually since he began to use a bicycle, two years before. He had an old-fashioned saddle, but was not in the habit of taking long rides.

On examination I found the prostate gland somewhat enlarged and quite sensitive to pressure. The urine contained a number of pus-cells and mucus shreds, but its more pronounced peculiarity was a high specific gravity and an abundance of urates and uric-acid crystals. The general health of the patient was fair, although he complained of occasional "rheumatic twinges" and "bilious headaches." Venereal disease was denied. The man was directed to lay aside his wheel; lithia water was ordered, and a regimen instituted suitable to his uric-acid tendency, whereupon all symptoms of the prostatic trouble abated, and in a few weeks the gland had recovered its normal condition. The following summer the gentleman again took to his wheel; he now used a saddle of the most approved pattern, and drank lithia water "to keep his urine clear," but in spite of these precautions the old soreness soon returned, and he was obliged to give up riding, this time for good.

CASE II.—A machinist, aged fifty years, consulted me for headache, backache, loss of appetite, etc. In the course of my examination I asked for a specimen of urine, and found that it contained a uric-acid sediment and also a number of pus shreds. I asked the patient if he had had gonorrhea. He

admitted but one attack, and that twenty-five years ago, but in the course of this inquiry he mentioned having had considerable soreness after riding his bicycle, and an occasional slight running from the urethra. The prostate gland was enlarged, and the posterior urethra was found to be somewhat inflamed. He was ordered to keep off the bicycle and was treated for a uric-acid accumulation. In a short time the urine cleared up and the urethral irritation disappeared.

Case III.—While I was treating the man above-mentioned, he spoke of two or three friends who were troubled in the same way—"were sore in the seat after riding and had a little discharge." He said he would send them around for an examination. A day or two later one of them came to see me. His urine was free from an excess of irritating material, but an attack of gonorrhea, three years before, explained, to my satisfaction, the mild urethritis which now followed every long ride on the wheel.

Case IV.—P. W., a young man much devoted to bicycling, in November last began to have a slight urethral discharge soon after having visited a brothel. This condition lasted not more than a week when all evidences of specific urethritis totally disappeared. Gonococci were not found in the pus which appeared at the meatus. During the following winter there were no signs of urethral inflammation, but about the middle of March, for the first time in four months, the man got out his wheel and took a twenty-mile run, and that evening he brought me a specimen of urine milky with pus-cells. He also complained of some soreness along the posterior urethra. Both of these symptoms disappeared after a few days' rest. I was inclined to hold the November attack responsible for the present trouble.

Case V.—During the summer of 1895 I treated a young man for a long-continued attack of specific urethritis. Finally the bothersome gleety stage came to an end, and for a year there was neither sign nor symptom of the urethral disease. At the end of this time he went to England, and while there commenced to ride a bicycle. Soon he noticed a little soreness along the urethra and had a little difficulty in "starting his water." These symptoms disappeared when he laid aside his bicycle for the winter, but again made their appearance when he began wheeling during the present summer. He came to me to find what the trouble was. His urine contained small pus shreds, which evidently came from the posterior urethra, and the prostate gland was found to be slightly enlarged. He has had to give up wheeling entirely for every ride brings on more of the old trouble.

Quite recently I was discussing this subject with a medical acquaintance, who had had under his care a patient suffering from a deep perineal abscess, which the doctor attributed to the continual use of a bicycle saddle of the most unhygienic and uncomfortable pattern. I mentioned my own experience in this matter, and the physician replied that his patient had had gonorrhea, but not in five years. To my mind this admission was highly significant in accounting for the bicycle abscess.

My brief experience thus leads me to believe that the inflammations of the deep perineal region, brought on by the use of the bicycle, have nearly always some secondary and underlying cause. Thousands of riders undergo this daily bumping, many of them mounted on rail-like saddles, and all without sign of damage. But the urethra, or the prostate gland, which still has lurking in its crypts and folds some relics of an old gonorrhea, or a mucous membrane irritated by uric acid I think are the conditions which the hard, humped-up bicycle seat is likely to stir into annoying activity. It would also seem to be very wise for men having any enlargement of the prostate to avoid the modern traveling machine.

CLINICAL MEMORANDA.

INTRALIGAMENTOUS FIBROID OF THE UTERUS WITH ADHESIONS TO THE OVARY; MYOMECTOMY.

By J. COPLIN STINSON, M.D.,
of San Francisco, Cal.

Mrs. W., aged thirty-five years. During 1894 she began to have a copious vaginal discharge, although since early childhood she had had a discharge, probably due to vulvovaginitis. In the fall of 1894 she received some form of electric treatment for her pelvic trouble. This was not attended by distress during the treatment, but afterward the pain was excruciating. Since then she had had pains in the pelvis and left side of the lower abdomen. In December, 1897, while lifting a bucket of water, she felt a peculiar pelvic pain which was dull in character and continued for several days. There was also constant pain in the left side. Examination at this time showed that there was milk in the breasts, and the uterus was somewhat enlarged. She continued to menstruate, but the flow had been and was peculiar for some time. She would pass a drop or two of blood during three days, and on the fourth she would begin to flow and the bleeding would always be quite severe and last usually five days; later she would pass clots of blood. She was examined March 13, 1898, by Dr. George Gross, but the abdominal muscles were so contracted that nothing could be made out with any degree of satisfaction. On March 17, 1898, she was examined under chloroform by Dr. Gross and myself. We found endometritis, and the uterus was somewhat enlarged, but in good position and movable. The left ovary was enlarged about three times the normal size, and was prolapsed and adherent. On the right side there was a mass the size of a hen's egg. It extended from the right uterine cornu and right side and posterior surface of the uterus outward into the pelvis.

On April 16, 1898, I operated, assisted by Drs. Gross and Burgess. Chloroform was administered by Dr. Putman, by the drop method. The patient was first placed in the lithotomy position, the cervix was dilated, and the uterus curetted and irrigated. The vagina was then tightly packed with plain gauze. This was done to push the uterus and adnexa as high as possible. The legs were then extended and a vertical incision about 2½ inches long was made above the pubes, dividing slightly to one side of the median line the skin, a thick layer of adipose tissue, the fascia, and the right rectus muscle. The peritoneum was opened at the upper angle of the incision and then torn down to the lower angle with the fingers. She was then placed in the Trendelenburg position, and the pelvis examined. The manipulations and the intra-abdominal work were made very easy by the pushing up of the uterus by the vaginal packing. This I think of value, and I intend to employ it right along in such cases. The fundus was readily located and brought to the surface. In the right cornu of the uterus was a fibroid tumor about the size of a hen's egg. It was firmly attached to the right cornu and the adjacent portion of the posterior surface and wall of the uterus. The Fallopian tube was displaced downward about half an inch, being located in front of the mass, which spread out into the folds of that portion of the broad liganient which contained the vascular supply of the right ovary. The external surface of the fibroid was rather firmly attached to the inner surface of the ovary, which was about 1¾ inches long. Its attachment to the mass was about 1¼ inches long.

The connections between the ovary and fibroid were separated by blunt dissection, aided at times by cuts with a scalpel. This necessitated division of the broad ligament for about 1¼ inches. The dissection was carried very close to the ovary. By this means no vessel was cut that required clamping. The cut edges of the ovary were at once sutured with fine chromicized catgut. This freeing of the ovary cut off about three-fourths of the blood supply. I concluded, rather than sacrifice any ovarian tissue, to trust to the remaining portion of its blood-supply to furnish nourishment for the whole organ. A circular incision was then made around the fibroid at its attachment to the uterus, an estimate first being made of the amount of uterine peritoneum that should be left so that the cut edges could be brought accurately together with sutures. The fibroid was freed and removed from the muscular wall of the uterus by blunt dissection, and the cut edges of muscular and peritoneal layers were united by continuous fine chromicised cutgut sutures. The left ovary was bound down by a few adhesions. These were separated and the ovary and the tube brought to the surface. The tube was patent. The ovary was about three times the normal size and contained several cysts, two of the size of a large hickory-nut, and another one-third this size. These were evacuated and then excised. The raw surfaces where the ovary had been adherent were also excised, and the cut edges of the ovary united with continuous sutures of fine catgut. This reduced the ovary to about one-third the normal size. The cul-de-sac was sponged out and the abdomen closed in separate layers with continuous sutures, of fine chromicized catgut for the peritoneum, chromicized tendon in two layers for the muscle and fascia, and very fine silk for the skin. The wound healed by primary union. The silk stitches were removed on the eighth day. The patient was allowed up and about in the third week, when she went without any bandage or support. She is now quite well. Examination shows the uterus and appendages to be in good position. She menstruated May 18 to 20, 1898, for the first time since the operation. She had no pain. The quantity and quality of the flow appeared normal. She has no pain or other symptoms referable to the abdomen or pelvis.

These favorable results show that conservative operations, or what I think would be better called scientific pelvo-abdominal surgery, should be more frequently employed as our patients can be cured without interference with the physiological actions and relations of their pelvic organs. I believe that when it is possible one should avoid removing any portion of ovarian tissue that appears normal, even though the portion of ovary remaining be small. Resection and plastic operations should be practised when pregnancy is liable to occur and delivery at term can be conducted with safety. An effort should always be made to cure our patients without depriving them of their menstrual function, as sometimes the symptoms which follow double oophorectomy or hysterectomy are more taxing than those which were present before the operation was performed. I report this case as it presents several points illustrative of conservative operations on both the uterus and appendages.

A CASE OF SYRINGOMYELIA.[1]

By THEODORE DILLER, M.D.,
OF PITTSBURG, PA.;
NEUROLOGIST TO THE ALLEGHENY GENERAL HOSPITAL.

C. A., an iron-worker, aged thirty-nine years, who had all his life enjoyed good health, noted two and one-half years ago some weakness in his shoulder muscles. A few weeks later atrophy of these muscles appeared. This paralysis and wasting have progressed steadily up to the present time. He has never suffered from pain. During the last two years he has frequently burned his fingers because of inability to distinguish hot articles.

Examination on March 1st showed marked scoliosis in the cervicothoracic region of the spine (which the patient stated had been present since childhood), great wasting of the scapular muscles and those of the upper arms, and, to a less extent, those of the lower arms and hands, and trophic changes in the hands, *viz.*, roughness and dryness of the skin and nails, vasomotor stasis, and a peculiar stiffness of the fingers. There is great loss of muscular power in the hands, arms, and shoulders, much more marked on the left than on the right side. Both knee-jerks are exaggerated and there is clonus in the left foot. The gate is spastic.

[1] The patient was presented to the Pittsburg Academy of Medicine, March 14, 1898, and to the Allegheny County Medical Society, March 15, 1898.

Tactile sense is preserved over all parts of the body. Over almost the entire body, except the face, the lower abdomen, the posterior portion of the thighs, half of the anterior portion of the right thigh and a strip running up the left side, he is unable to distinguish heat, or else is uncertain in his recognition of it. Over the entire body he recognizes cold objects brought in contact with the skin. Over the skin of the arms, trunk, head, and neck (not face), except over the lower buttocks and abdomen and left side, sharp pinches, needle-pricks, etc., do not give rise to a sense of pain, or only to a slight one. These areas of analgesia and thermo-anesthesia, it will be noticed, overlap in the trunk, arms, and head.

The accompanying diagrams, kindly made for me by Dr. Babb, indicate better than words the areas of anal-

Fig. 1.

Diagram showing the areas of analgesia and thermo-anesthesia in a case of syringomyelia. Shaded area: Absence of pain and heat sense. Dotted area: Diminished pain and heat sense. Crosses: Absence of heat sense only. Unshaded area: Normal.

gesia and thermo-anesthesia. Sensation has been tested several times, and I have to thank Drs. D. Moore, Jr., and George Holliday for assistance in this tedious work. The maps are, I believe, quite accurate.

Although syringomyelia is often difficult or impossible of recognition, yet when it presents the symptoms such as are seen in this patient, *viz.*, atrophy and loss of power in the muscles of the shoulder, girdle, and upper arms, trophic changes in the hands, scoliosis, and "dissociation of sensation," the diagnosis becomes plain, as much so as in any other organic disease of the cord. The "dissociation symptom," *i. e.*, the preservation of one form of sensation with the loss of one or more of the other forms, is no longer regarded as pathognomonic of syringomyelia, since its presence has been noted in

Fig. 2.

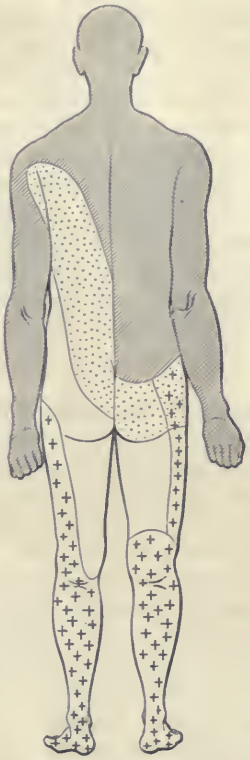

Diagram showing the areas of analgesia and thermo-anesthesia in a case of syringomyelia. Shaded area: Absence of pain and heat sense. Dotted area: Diminished pain and heat sense. Crosses: Absence of heat sense only. Unshaded area: Normal.

neuritis, hysteria, and myelitis. It must still be looked upon, however, as one of the most significant symptoms of syringomyelia, and its presence should always suggest the possibility of this affection.

THERAPEUTIC NOTES.

Recognition of a Deep Diverticulum of the Esophagus.—Reitzenstein (*Centralbl. f. Chir.*, Juiy 16, 1898) mentions the following means of diagnosis of a deep-seated large diverticulum of the esophagus, according to observations made upon a patient: (1) An obstruction to the passage of the sound which does not yield even after the tip of the sound has pressed against it for some time. (2) The chemical examination of the contents of the pouch will show an absence of ferments and free hydrochloric acid, and the presence of organic acids. It may also be possible to obtain from the diverticulum portions of a previous meal, while the last food swallowed has passed smoothly into the stomach. (3) In order to make a differential diagnosis between an idiopathic dilatation and a deep-seated diverticulum, it is necessary to pass into the stomach a sound whose sides are fenestrated

high enough to reach the diverticulum. If a second sound is passed and water poured into it, it will siphon off the whole of the water in case of a diverticulum, while if a diffuse dilatation be present not a drop will return. (4) If different colored fluids are used in two hollow sounds passed the one into the diverticulum and the other into the stomach, the second fluid will remain quite distinct. (5) Illumination by means of Einhorn's incandescent lamp. (6) Skiascopy after a fluid containing bismuth has been swallowed, or after the introduction of a sound filled with shot or powdered lead. (7) In many cases the sound of fluids rushing through is plainly distinguishable. (8) If a small solid sound whose tip has been wrapped with sticking-plaster be introduced into the stomach, and a colored fluid be poured into a second and hollow sound which reaches the diverticulum, the plaster will be colored if a diffuse dilatation is present, but not if there is a diverticulum.

Treatment of Gonorrheal Epididymitis with Ice.—UNNA (*Monatsh. f. prakt. Dermatol.*, August 1, 1898) says that for patients who can afford the necessary rest in bed, no treatment will so quickly and so surely relieve the pain and swelling of an acute or a chronic gonorrheal epididymitis as the constant application of ice. The principle involved is the expulsion of the exudate by the stimulation of the dartos muscle to its utmost power of contraction, and hence, the application of the ice must be thorough. The simple cooling of the skin will not suffice. For the correct carrying out of this treatment it is only necessary to provide several pounds of ice daily, a fairly large ice cap, a half yard of water-proof material, and a hoop. If it is not possible to keep the patient in bed constantly, considerable progress toward recovery may be made if the ice is applied at night only. Instruction should be given in the preservation of the ice, which will melt rapidly if it is not kept dry. The simplest method is to place a coarse cloth over a pail and to lay the ice upon it, covering it with a thick woolen cloth. The patient should lie upon a folded towel, the ends of which are to be brought up over his thighs, drawn tight, and fastened with a safety-pin. Upon the bridge thus made is laid the water-proof, and upon it the scrotum entirely wrapped about with the ice-bag. The latter should be filled only half full of medium-sized pieces of ice. So that it may readily fit the scrotum, a cloth wet with acetate-of-lead solution, and placed between the scrotum and ice-bag is grateful to the patient, and serves to distribute the cold equally. The hoop, fastened on either side of the bed keeps the clothing sufficiently elevated to allow evaporation, and prevents the rapid melting of the ice by the warm bed-clothing. By these simple measures the absorption of large exudates may be accomplished in a short time, and the patients cannot say enough of the comfort which the ice gives them.

If the ice is applied at night only, the scrotum should be wrapped daily in either waste gauze or should be bandaged with compression, or it may be simply painted with a ten-per-cent. ichthyol collodion.

This treatment with ice is beneficial, not only in inflammatory conditions, but in others in which the dartos is weak. Thus nervous patients or those with varicocele may use it at night with good effect, and its tendency is to promote sleep rather than to disturb it.

Treatment of Obesity by a New Preparation of the Thyroid Gland.—MACLENNAN (*Brit. Med. Jour.*, July 9, 1898) gives rules for the preparation of a new product of the thyroid gland, which, according to the reports of cases which accompany the article, may be used in the cure of obesity with greater certainty and safety than has been the case with the preparations of the thyroid gland hitherto on the market. The difference in the symptoms produced by the use of thyroid remedies by different persons is due probably less to their individual peculiarities than a difference in the preparations themselves. If one can have, therefore, a standard preparation of a known and certain strength, the possibility of reduction in flesh without the accompanying danger of sickness, diarrhea, sore throat, excessive sweating, and cardiac failure will be greatly increased.

The thyroid gland contains two important principles: one iodoglobulin, the larger constituent, and the other thyroiodin, discovered by Baumann. Both contain iodin, and both are requisite in order to obtain the specific effects of the gland itself. The best method for the separation of these active principles is as follows:

1. Selected and healthy glands are macerated in cold water, which extracts the soluble iodoglobulin. The solution is decanted or filtered off, and evaporated to dryness at a temperature of 212° F. The resulting powder is reduced to a fine state.

2. The residual glands are then boiled for an hour in a weak solution of caustic soda, which eliminates the thyroiodin. After filtration the solution is exactly neutralized with hydrochloric acid, evaporated to dryness, and powdered.

3. The two powders are mixed together, and constitute thyroglandin.

This preparation is made in such a way that thorough sterilization is secured, and the two important constituents of the gland are obtained in the same proportion as they exist in the gland itself, while other deleterious matters which may be present are excluded. If kept dry thyroglandin will retain its properties indefinitely without deterioration. It may be administered in capsules or tablets, in doses of 3 to 5 grains, such a dose being equal to half a gland of average weight.

Eudoxin in Intestinal Inflammations.—DR. SCHONLADNIEWSKI in the *Wiener Medicinische Presse* recommends in children from two to seven years of age, eudoxin in 3- to 6-grain doses for follicular enteritis, dysentery, and sub-acute, chronic intestinal catarrh.

Ointment for Pruritus.—

℞ Plumbi acetatis . . . gr. viii
Cocain hydrochloratis . . . gr. xii
Vaselini alb. . . . . ʒ ss.

M. Ft. ungt. Sig. External use.

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Address the Editor: J. RIDDLE GOFFE, M.D.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK.

Subscription Price, including postage in U. S. and Canada.

PER ANNUM IN ADVANCE	$4.00
SINGLE COPIES	.10
WITH THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, PER ANNUM	7.50

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SATURDAY, OCTOBER 1, 1898.

WHAT CONSTITUTES RESPONSIBILITY?

THE incidents that have attended the rounds of inspection recently indulged in by the Secretary of War and the Surgeon-General of the Army are calculated to awaken in the mind of the average person a somewhat confused notion of what "responsibility" means. The Secretary of the War when confronted with the charge that the quartermasters appointed by him are negligent, incompetent, and brutal, waves his hands in saintly innocence, and replies that he is very sorry, but of course he is not responsible. Well, here is a quartermaster upon whom the hospital surgeon, at a time of great sickness in the command (there being two thousand patients in the hospital), made a requisition for twelve fever thermometers, an instrument absolutely essential to the accurate diagnosis of typhoid fever. The answer comes back, "You're a chump," or something of that nature. "If you had asked for two I might have got you one." And this man cannot be disciplined or dismissed for he is responsible to nothing, except perhaps the wind, or the air, or his own sweet will. Neither is the Secretary of War responsible. With him this is not a world of responsibility. Events that happen here, even in the Quartermaster's or Commissary departments, are beyond the pale of human accountability.

Discovery is finally made, in this round of inquiry, that the medical officer in charge of the largest of all the volunteer camps, that of Camp Thomas at Chickamauga, at one time containing sixty thousand men, is a veterinary surgeon, who apparently knows nothing about sanitation or hygiene, and whose ambition has been to have a great division hospital where he should have personal supervision, and for which he should receive great personal credit. In pursuance of this plan regimental hospitals had been abolished, and two of the three surgeons constituting the staff of each regiment had been detached therefrom and ordered to the division hospital.

The result was that the surgeon left with the regiment (usually the second assistant-surgeon) had more work than he could possibly do in attending to the daily sick-list. The sanitation of the camp was neglected, filth and infection abounded, sickness multiplied, typhoid fever permeated the kitchen as well as the sinks, and the camp became simply a great source of supply to feed the hospitals with patients. In the meantime the hospital and regimental surgeons are being berated and denounced by the division commanders as incompetent and neglectful.

In this stage of affairs the question naturally arises, who placed a veterinary surgeon in supreme command of the medical and surgical department of the camp? The Surgeon-General answers that he approved and signed his application but that when he did so he did not know that he was a veterinary surgeon and, *therefore*, is not responsible. The Secretary of War on the other hand *does know* that Dr. Huidekoper came to him with the approval of the Surgeon-General and therefore *he* is not responsible.

Will these authorities at Washington be good enough to tell us what their acceptation of "responsibility" is?

RECENT VIEWS ON THE PHYSIOLOGIC FUNCTION OF THE THYROID GLAND.

THE function of the normal thyroid gland, the causes of the symptoms which develop in goiter, and the action of thyroid extracts upon healthy and diseased individuals are far from being well understood. Munk in a paper recently published in *Vir-*

chow's Archiv, maintains the position long since advocated by him, that the thyroid is an organ of secondary importance, and that the deaths and severe symptoms which follow its removal are not due to the lack of its secretion, whatever that may be, but to nervous disorder produced by the operation. He therefore looks upon iodothyrin as a substance which is not essential to the body. He reaffirms these conclusions from experiments which have recently been performed. Many animals recover after removal of the thyroid and continue in apparently perfect health. It is true that many of those experimented upon died, some of them after exhibiting symptoms of tetanus in varying degree; but these symptoms also developed after thyroidectomy in some animals having accessory thyroids which were not removed. Indeed, the results which follow the removal of the thyroid in animals are so varied that it is difficult to draw any general conclusion from them. Munk was unable to produce any effect whatever by introducing the thyroid gland into animals upon whom thyroidectomy had been performed, and he explains experiments of this sort which have been reported by others as errors of observation. While admitting that the removal of the thyroid gland predisposes to tetanus and is, therefore, a dangerous operation, he denies that the thyroid is in itself essential to life. Death often follows the removal of a thyroid which is functionally useless and may indeed occur during the operation. Under these circumstances it can scarcely be occasioned by the deprivation of thyroid secretion.

Some experiments by Exner point in the same direction. He found that removal of one-half of the thyroid in cats produced tetany provided the superior and inferior laryngeal nerves of the opposite side were divided, either at the time of operation or soon afterward. The same result followed division of these nerves upon both sides without removal of the thyroid gland. In the animals treated in this manner there was no change in the normal amount of iodin present in the thyroid gland, at least up to a period of two weeks after the date of operation. Exner, therefore, regarded the symptoms which follow thyroidectomy as having a neurotic rather than a secretory genesis.

In marked contrast to the modestly indefinite views of these authors are the theories advanced by De Cyon. He states that the action of the thyroid gland is to convert the salts of iodin which are present in the blood into iodothyrin. The former are depressors of the heart, while the latter is a stimulator; hence, the heart is able by means of the connection through the laryngeal nerves, to regulate the activity of the thyroid gland and thus indirectly to control its own action. The thyroid gland also protects the central nervous system against too great pressure by offering, when its vessels are dilated, sluiceways for the surplus blood. This action is also under control of the heart.

Some experiments by Berard in thyroid fever are interesting in this connection. He found it present in twenty-one out of thirty cases after thyroidectomy. The general characteristics were as follows: On the evening after operation, or perhaps on the following day, there was a sudden rise of temperature to 102° to 104° F. This continued with regular morning remissions for eight or ten days, when by crisis or lysis the temperature curve returned to normal. The general condition often did not correspond to the amount of fever. Sometimes the pulse was 110, the respiration 30, with an increased perspiration, trembling, and a feeling of heat, so that the general picture was not that of a severe infection, but rather that of an intoxication due to a temporary excess of the products of the gland in the blood. Glycerin extracts of hypertrophied thyroid gland were injected into the veins of seven rabbits and produced fever, rapidity of pulse and respiration, diarrhea, contractions in the palms, and increased reflexes. Normal thyroids, when injected, produced an increase of temperature but no other symptoms, so that apparently a hypertrophied thyroid gland secretes abnormally toxic substances.

Magnus-Levy discusses in the *Zeitschrift für klinische Medicin* the effect of thyroid extracts upon the metabolism. He found that thyro-iodin has a much more powerful influence upon the metabolism than the inorganic salts of iodin. Its influence is not exerted upon every one whether sick or well. It reduces weight by a loss of water and albumen, and also by a true destruction of fatty tissue. This is, however, of the nature of poison and on this account and because complications of a nervous character are often associated with reduction in weight the writer thinks that the thyroid cure for obesity is unwise.

ECHOES AND NEWS.

Health of the Troops in Porto Rico.—The sickness in the army of occupation at Porto Rico is still increasing. The latest reports announced that there were 2500 soldiers under treatment. Typhoid fever and malaria are the prevalent diseases.

Yellow Fever in the South.—At Franklin, La., the total number of cases reported by the Marine Hospital Service up to September 13th was forty-two, with two deaths. At Jacksonville, Miss., September 10th one case; at Orwood, Miss., from July 30th to September 6th, forty-one cases with no deaths.

Cornell University Medical School.— The opening exercises of this institution will be held in the amphitheater of the college building, Tuesday evening, October 4th, beginning at 8 o'clock. An address will be delivered by President Schurman of the University and by Dr. Polk, dean of the faculty.

New York Polyclinic Medical School and Hospital.—The winter session of this institution began September 15th. The faculty and staff are meeting their appointments with their usual promptness and regularity, and the number of students already in attendance gives promise of a most successful winter.

Dr. Senn's Panacea for Military Shortcomings.—The most flagrant fault had its seat in the dependence of the medical department upon the quartermaster and his men. The medical department must have its own lighters, its own transports, its own mules and wagons. The entire system as now used must be revolutionized. As the first step, the Surgeon-General should be elevated to a Major-General's rank and pay.

Sickness in the Philippine Army.—The 13th Minnesota Regiment which is stationed at Manila has forty-five men on the sick-list. Three privates belonging to that regiment died during the week ending September 22d. General Babcock, who arrived at San Francisco September 22d on the steamship "China" from Manila, says that the Spanish soldiers of Manila are quartered in the cathedrals and churches; the Philippinos wherever they can find space. All of our soldiers are in the barracks and well cared for.

Smallpox at Put-in-Bay.—About the middle of August smallpox developed among the servants at the Victory Hotel at Put-in-Bay, Ohio. The Marine Hospital Service reports that up to September 6th there had been twenty-six cases, twenty-one of the patients being negroes. Most of the negroes came to the hotel from Asheville, North Carolina, and undoubtedly brought the disease with them. This outbreak is evidently a side issue of the somewhat general epidemic of smallpox throughout the Southern and Southwestern States.

Medical Services at Auction.—The Bingly (England) local board is obliged by law to have a medical officer of health. Quality with them does not count; the price is everything. Accordingly it has issued an advertisement, the form of which leads to the inference that the man who places the lowest money value upon his services will be selected for the position. The officers of that community must certainly have strange ideas regarding the commonest courtesy due to members of a learned profession, for certainly nothing could be more insulting to the medical profession.

Red-Cross Work Commended at Jacksonville, Florida.—Each day the Red Cross gives 50 gallons of milk, 2000 pounds of ice, and 30 dozen of eggs. Besides this it has built store-houses, floored the tents, given hundreds of night-shirts, pajamas, pillows, sheets, buckets, bedpans, and dozens of other articles necessary for the care of the sick. In military channels the stream of supplies flows slowly and with many stops and much formality, but Dr. Kent, who represents the Red Cross at Jacksonville, gives freely and without delay. He has no regulation that prescribes how many bedpans one division must use, but gives all that are needed.

Casualties in the Soudan Expedition.—In the recent fight at Omdurman there were 4 officers killed, 3 English and 1 native, as well as 23 men in the British regiments and 20 in the native. There were 14 British officers wounded, and 8 native officers. The wounded in the British regiments numbered 99, and in the native regiments 221, so that the total number lost in this battle—in which the enemy lost some 15,000 in killed and wounded—was 389. Lieutenant-Colonel Hoggett, senior medical officer of the expedition, received a bullet wound of the left breast, and 2 men of the corps were wounded, one of them severely, by a bullet in the head.

Responsibility for the Hospital Surgeons and Their Work.—General Breckenridge recently submitted the direct question to General Sternberg as to who had the right to command the hospital surgeons, saying that, at Chickamauga, these individuals were a sort of do-as-you-please fellows under nobody's command. The same condition existed at the new quarters at Camp Hamilton. General Sternberg replied that the surgeons were subject to the orders of the division commanders; that it was the latter's business to know this and secure obedience. The surgeons had maintained that they were responsible only to Surgeon-General Sternberg.

Medical Practice in South Africa.—The correspondent of the *Münchener Medicinische Wochenschrift* writes that the number of doctors is increasing out of all proportion to the population. The expenses of living are also on the increase. It is high time, therefore, to warn some of our younger brethren who are anxious to make their fortunes in as short a time as possible that Africa does not hold out the golden palm as in days of yore. There seems to be unlimited scope for the unqualified practitioner. Johannesburg appears to be overstocked with "doctors," the majority of whom have had no medical education whatever; these satisfy their consciences by buying diplomas on the spot. A license to practise is given to any one who pays $100.

The Soudan Expedition.—The *British Medical Journal*, in commenting upon the success of the Soudan Expedition under Sir Herbert Kitchener, remarks that the most difficult part of the advance was over long before the two forces stood face to face. The great merit of the Commander and of his staff has been the frank recognition of the necessity for forming a true estimate of the risks to health involved in moving a large force for so great a distance under a trying climate and under local conditions as to the water-supply and camp grounds, which rendered it imperative that every move should be regulated by sanitary requirements. The success of the advance reflects the greatest credit on the medical officers who have advised on these points and upon the Sirdar (Kitchener) who has known how to value and accept their advice.

More Sick Soldiers from Cuba.—When the "Vigilancia" arrived about three weeks ago at Montauk she reported that she brought the last of the sick from Siboney and Santiago, but on September 21st there arrived unheralded at Montauk the transport "Segurança," having on board forty men in good condition and thirty-five ill. One of them was a yellow-fever patient. This transport announced also that she brought the last of the sick. Four hours later the transport "Mexico" arrived and made the same statement regarding herself. She brought seventy-six men of Troop M., 10th Cavalry, and eighteen sick. Both transports were ordered immediately to New York quarantine. There the yellow-fever patient was placed in the hospital at Swinburne Island, and all the other passengers on Hoffman Island for disinfection and detention. The yellow-fever patient has since died.

Surgeon-Major Pinches.—The following incident is told of Surgeon-Major Pinches, who was attached to the 21st Lancers in the Soudan campaign. Out of a total strength of 320 men with which the regiment went into the battle at Omdurman no fewer than 40 were killed and wounded. Several horses were quickly hamstrung and their riders were promptly cut to pieces by the ferocious foe. With but one exception no man who was once actually unhorsed was again seen alive. This man was Surgeon-Major Pinches. His horse was brought to the ground and the officer fell among the furious dervishes. Sergeant-Major Brennan, who was riding ahead, saw the Major's peril and gallantly returned to his assistance. After a tough fight, in the course of which several dervishes lost their lives, Brennan succeeded in getting the officer on to his own horse and back to the regiment.

Facts Concerning Dr. Huidekoper.—One who knows writes us as follows: As a young fellow, Dr. Huidekoper had a good training and was one of the junior surgeons at the University of Pennsylvania, with fine prospects. Pepper induced him to go to Alfort, where he spent three years at the veterinary school. Returning, he organized the Veterinary Department of the University of Pennsylvania. Though he gave up his medical practice, he always mixed with medical men, and he was surgeon to the City Troop, and for many years in the National Guards, where he had excellent opportunities for knowing the routine of camp organization. It is very unjust to speak of him as an obscure veterinary surgeon, for few men in this country have done more to promote its highest interests, and I know personally the character of the work he did in Philadelphia, and the self-sacrificing way in which he labored for the school. I do not defend his appointment, but we should be just to him.

The Medical Club of Berlin.—Dr. J. M. Winfield writes to the *Brooklyn Medical Journal* concerning the above named medico-social undertaking at the German capital. "The men who have inaugurated this club have brought out a very unique thing. They have a number of rooms furnished and equipped in club style. Meals are served to members, and all visiting doctors from any part of the world are invited to visit and use the club as their headquarters when in the city. Some of the waiters speak English, so an English-speaking doctor can always feel at home. In addition to the restaurant, card- and billiard-rooms, they have a spacious reading-room and library, where all of the medical journals of the world are kept on file. The president is Dr. Lesser, one of the best-known professors at the University. The medical men in Berlin are very anxious to make the club a success, especially for foreign visiting physicians. It costs for visiting members three marks per month, less by the year."

The Regimental Hospitals Restored at Camp Poland, Lexington, Ky.—Under the administration of Colonel Huidekoper, the veterinary surgeon who had charge of Camp Thomas at Chickamauga, all of the regimental hospitals were abolished and all of the sick of the entire army of 60,000 men were transferred to the division hospitals so that they could be under the immediate supervision of Colonel Huidekoper. Upon the recent visit of Secretary Alger and General Sternberg to this camp Colonels Gardner, Kuert, Lawton, Shuble, and Young, and Major Schaffer objected strongly to the abolition of regimental hospitals, and Surgeon-General Sternberg directed that these should be restored. Colonel Huidekoper accompanied the troops from Chickamauga to Porto Rico, and against the strong opposition of the regimental commanders insisted on applying his system there, abolishing regimental hospitals and forcing all the sick into a division hospital, where, as Colonel Huidekoper said, it enabled him to keep all the sick under his personal supervision.

Deaths under Anesthesia.—Two deaths near Birmingham, England, during the administration of anesthetics have recently been reported. One was that of a boy aged fifteen years who died under chloroform while undergoing an operation on a diseased hip-joint. Chloroform was administered in a modified Junker's inhaler; only 80 minims were given, the operation lasting twenty-five minutes. Previous examination showed no contra-indication to the use of chloroform. Post-mortem revealed a normal but contracted heart. In the second

case the patient was a woman, aged thirty-nine years, suffering from cancer. The anesthetic was a mixture of chloroform and ether. Preliminary examination failed to disclose any contraindication to the anesthetic. On post-mortem a flabby, fatty heart was discovered. The patient died in the first stages of the anesthetic before the operation was begun. A third instance of death under anesthesia is reported from Liverpool. The patient was a workman aged twenty-eight years, who was about to be submitted to an operation for the repair of a crushed hand. Autopsy revealed no sufficient cause for the fatal termination.

The President's Investigation Commission.—This commission began its regular sittings on Saturday. September 24th. Many of the men selected to serve upon it have declined but those who have undertaken the work are the following: Major-General Grenville M. Dodge of New York; Colonel J. A. Sexton of Illinois; Captain E. P. Howell of Georgia; Major-General J. M. Wilson, Chief of Engineers of the United States Army; Charles Denby of Indiana, former Minister to China, former Governor of Vermont; former Governor James A. Beaver of Pennsylvania; Major-General Alexander McD. McCook, U. S. A., retired, and Dr. Phineas D. Connor of Cincinnati, Ohio. It is thought that the commission will make its first inquiries in the Secretary's office, the Adjutant-General's office, and the office of the Major-General commanding the army, taking cognizance of the orders which were issued for the conduct of the war and the instructions given to the army. In the same manner the offices of the Surgeon-General, Quartermaster-General, and Commissary-General will be examined into to ascertain the character of the orders issued, and whether they were carried out. It is not known whether the commission will visit the camps, but it is thought probable that such journeys will be made.

Some Camp Thomas Items.—One of the surgeons at Camp Thomas says he made a requisition for two dozen fever thermometers with which to take the temperature of a large number of sick soldiers. The curt reply came back from an official upstart: "If you had made requisition for two thermometers, instead of two dozen, we would have tried to get one for you." It was not until General Breckenridge took command at the camp that lime was used to disinfect the sinks that had made Chickamauga Park a breeding-place for malaria and typhoid fever. There was a great lack of good drinking-water for several weeks. Several nurses testified before Major Ward and his associates that no orders were issued to wash the sick men, and there were no conveniences furnished for their washing. And so they suffered, and in many cases died in conditions too horrible to describe, outside of a medical journal. The hospitals lent new horrors to death. Many who perished would probably have suffered less had they been left to die in the open air under the shade of the trees. . . . It seems incredible that in this land of plenty scores of fever-stricken soldiers at Camp Thomas should die without being supplied with the ice and milk for which they pathetically pleaded. Yet there is sworn testimony to this awful fact. Speaking of this matter, a leading citizen of Chattanooga said to me: "This is a great milk country about here. There are cows enough in this section to supply milk for an army in addition to the men who craved for it in the camp hospitals. There are two artificial ice-plants at Chattanooga that could have been purchased by the Government, and could have been made to turn out more ice than the hospitals needed."—*Brooklyn Eagle.*

CORRESPONDENCE.

A PREVALENT METHOD OF INFECTION AMONG CHILDREN.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—In the wonderful progress of the science and practice of hygiene that has come about during the last ten years, it seems strange that such a ready method of infection, as is furnished by children when transferring already salivated foodstuffs from one mouth to another, should escape scrutiny, comment, and condemnation. This filthy and positively dangerous habit, though innocently practised is a matter of paramount importance and demands more than passing attention.

This evil, the effects of which are highly detrimental, cannot be abolished till the public attention and fear are aroused by impressing on their minds the positive dangers connected therewith. Mothers must strenuously oppose the injurious habits of their children eating from other children's mouths. Further, in schools, and especially in the playgrounds where this innocent vice is practised to its fullest extent, teachers should be on the alert to reprimand such victims. Is it too much to ask that the "Board of Health" shall at once take decisive steps for the prevention of this pernicious vice?

MAURICE MINTON, M.D.,
39 MONTGOMERY STREET, NEW YORK, September 26, 1898.

VOLUNTEER OFFICERS AND THEIR MEN.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—I beg to inquire if your attention has been called to the comparatively low rates of sickness and death (except in battle) that appear to have been incident to our officers of volunteers who have returned to us from both the conquered Spanish territory and from the camps at the South? The terrible losses and suffering that have, in so many places, befallen the private troops have apparently given their officers the go-by. I say "apparently" for the reason there has as yet been published no official statement that would enable us to form an exact opinion. I have had this subject before my mind for some time past and have formed an opinion, from what I have read, that not only has sickness and loss been proportionately less severe among volunteer officers than among their men, but also among the officers of regulars.

I trust that some trustworthy research may be made, officially or otherwise, to throw light on these apparently different loss-rates for different classes of men, and inci-

dentally to give information as to the dietary of officers and men while at the front and at the instruction camps. This research may result in bringing to light some very selfish conduct on the part of the officers, if the truth is ever brought out from a class of men who are very slow to make complaint. I chanced to overhear a trolley-car conversation turning upon the conduct of many of the officers of the 71st New York Volunteers, that made it plain that the boys of that regiment were imposed upon by their officers at every opportunity, and further, that there is a day of reckoning to come for those who maltreated their men. LUX.

Brooklyn, September 19, 1898.

[This fact has evoked frequent comment on the return of the various regiments, not only from Cuba but also from the volunteer camps. The lack of consideration shown their men by some volunteer officers was depicted in the "Pen-pictures of Camp Wikoff" published in the MEDICAL NEWS September 10th. This charge suggests a very proper field for official investigation.—ED.]

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

REQUIREMENTS OF PRELIMINARY EDUCATION AND MORE RIGID MEDICAL EXAMINATIONS—HOSPITAL BEQUESTS—PERSONAL NOTES—HOSPITAL NOTES—PHILADELPHIA COUNTY MEDICAL SOCIETY MEETING—HEALTH STATISTICS.

PHILADELPHIA, September 28, 1898.

THERE is some little speculation as to how the law requiring "a competent common-school education" as preliminary to the study of medicine is to be interpreted, and a commission appointed from members of the public-school boards to hold these examinations will probably have some difficult problems to solve, and the enormous and constantly increasing number of matriculates at the medical schools demands more care in this matter and a more rigid system of examinations by the State.

Dr. Henry Beates, Jr., a member of the State Medical Examining Board and an ardent worker for a high standard, furnished the following examples as illustrative of material which frequently comes before the board, the questions and answers here given being verbatim copies of some sample answers in the examinations of applicants for a license to practise medicine in this State:

Question: "Describe the functions of the capillaries."

Answers: "They carry the air and blood through the tissues and organs." "Carry nutrition, oxygen; carry away waist-products; assist in radiation. They give a rich blood-supply to the parts. They carry red and white blood-corpuscles to build up injuries; carry off waist-products, and is in generaling the temperature of body by their power of contractility." "To supply nourishment to the superficial surfaces of the skin, and to assist in carrying oxygen to the lungs."

Question: "Give the origins of normal fat in the human body, and name examples of the types of food from which it is elaborated."

Answers: (1) "Due to imgration of fat cells and blood-corpuscles. (2) Meats, sugar starches." "The circulation and lymphatics along with the starches. Animal foods." "In liver fat; is found normally of long bones from meat. Hydrocarbons and carbohydrates. Fat and oils from liver substance its self."

Question: "Describe the pathological changes in senile gangrene."

Answer: "The tissue undergo changes by the extravasation of leucycites and cellerlar tissue change, which causes death to the part."

Question: "Summarize the function of sweating, and explain the office of each physiological factor concerned."

Answer: "The function of sweating are, the kidneys which carry of the sweat which is not gotten rid of through the skin the pores are also means of getting rid of the sweat, and it is also absorbed by the hair follicles."

Question: "Name each anatomical structure involved and describe the changes occurring in tubercular arthritis."

Answer: "The lungs become involved when the tubercle is contracted it involves the spleen, becomes congested, the liver being inflamed."

Question: "Describe metabolism."

Answer: "Metabolism is a system of waste and repair; it is constructive and distructive, it influences heat, light, moisture, and electricity."

Question: "Describe the pathological changes in acute yellow atrophy."

Answer: "There is fatty degeneration and escapement of cellular elements."

Question: "Describe the pathological conditions present in peritonitis."

Answer: "There is hyperemia of the serious membrane the capillaries distended and occasional extravasation of blood from the rupture, the normal secretion is arrested, the shinney membrane becomes dull and opaque from exudation of pure fibrin which is adhesive glueing the parts together this is adhesive peritonitis if it goses on the effusion of serious fluid is poured into peritoneal cavity it is called exudative."

Question: "Name and describe the various forms of white cells of the blood; methods of differentiation, and their pathological significance."

Answer: "they are diferented by the microscope the one will be a white cell while the other will be a white cell with a small round dot either in the center or at the sides which can be distinctly made out. they are the scavengers of the body and they will try to kill bacteria which enter the body for instance if you have a wound they will flock there and battle with the bacteria and die and raise a monument and the monument will be the scab.

"P. S. These cells are called the leucocytes, microcytes."

Another answer was: "I know of but one kind of white blood-cell although they change their form very much and afterward assume their round shape again unless distroyed by the function which they have had to perform. Their significance might be determined by the aid of the microscope for as their function is to act as guardians and

scavengers it might be determined finding out what they may be trying to dispose of."

By the will of the late Catherine Thorn the following bequests are made: To the Episcopal and Pennsylvania Hospitals $5000 each in memory of her husband and brother respectively, and to the Home for Incurables $3000.

Dr. Keen returned from Europe last week and immediately went to Washington to confer with the President about the War Inquiry Commission on which he finally determined not to serve. Dr. Emil Dippel, who was so severely blood-poisoned early in the summer, has resigned from St. Timothy's Hospital.

Dr. John B. Robert's resignation as President of the Philadelphia Polyclinic and College for Graduates in Medicine has been accepted with regrets by the Board of Trustees.

Dr. Gans, Assistant Surgeon of the Twentieth Pennsylvania Infantry, has been appointed Medical Director of a hospital for convalescent soldiers, established by the Pennsylvania Women's Emergency Relief Association, with Dr. M. V. Leaf as assistant.

Dr. Hare held the first medical clinic at Jefferson Hospital last Monday and Drs. Hearn and J. Chalmers Da Costa, surgical clinics.

Of the 1550 sick soldiers received at the different hospitals throughout the city, 365 have been discharged and 24 have died, a mortality thus far of 1.6 per cent.

The remodeled laboratories of Jefferson Medical College are almost completed and will be occupied the first of next month, while the new college building is so far advanced as to leave no doubt of its completion by June, 1899, the time specified in the contract.

The daily papers last week published the fact that gangrene of the skin had appeared among the convalescent soldiers in St. Agnes' Hospital. Dr. B. Franklin Stahl of St. Agnes' ascribes it to the inconceivable weakness of the soldiers' blood and consequent malnutrition, a condition difficult to overcome in typhoid convalescents. Two deaths have already occurred.

The Philadelphia County Medical Society held its first fall meeting September 14th, papers being read by Dr. Roberts, who reported three cases showing "The Necessity for Early Operative Interference in Intestinal Obstruction," and by Dr. S. Solis-Cohen, whose paper on the "Treatment of Exophthalmic Goiter with Suprarenal Substance" was discussed by Dr. J. Coles Brick and Dr. J. Chalmers Da Costa.

The total number of deaths for the week ending September 23rd, as reported at the health office was 376, of which 120 were in children under five years of age. The total number of contagious diseases reported was 480, as follows: Diphtheria, 99 cases with 17 deaths; scarlet fever, 15 cases with 2 death; typhoid fever, 366 cases with 15 deaths.

Application for Bites of Insects.—

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	Ac. salicylici	gr. v
	Collodii	*m.* xlv.

M. Sig. External use.

OUR FOREIGN LETTER.

[From Our Special Correspondent.]

GERMAN MEDICAL SCHOOLS AND THE INVASION OF SPECIALISM — A SPECIAL APPLICATION OF THE ELECTIVE SYSTEM IN MEDICAL WORK — WANDERJAHRE IN MEDICINE AND OPPORTUNITIES AFFORDED—POSSIBILITIES OF THE SYSTEM IN AMERICA.

Berlin, September 18, 1898.

About the time this reaches you American medical students will be finding their way back to the medical schools for the year's work. German medical students will not begin the semestral work until after November 1st. Meantime October, in many of the German university towns, and especially here at Berlin, is taken up by a series of special vacation courses, attended by recent graduates and medical undergraduates who are entering on their final semesters. The specialism of modern practice invades the sacred domain of even a German university medical career. The protest voiced so forcibly by Professor Von Jaksch at the German Medical Congress at Wiesbaden in the spring, during the discussion of the clinical aspects of medical education, was echoed by distinguished German professors, who had scented the danger, too, but courses in the specialties are of too intensely practical interest to the student, who looks forward to practice shortly after graduation, to permit them to be neglected for the sake of the supposed firm foundation afforded by nine semesters of exclusive application to the principles of general medicine and surgery. It is not alone in the vacation courses but also in the regular university courses that the invasion of specialism even in student days is noticed and its satisfactory limitation is evidently going to constitute one of the serious medical educational problems of the Twentieth Century.

Meantime there is a very common custom among the German students that protects them more than is usually the case from the seductions of premature specialism and lends an added interest to the study of the fundamental principles and the cognate sciences that constitute the important groundwork for a medical education. Very few German medical students take all of their medical courses at the same university. Very often the first semesters are passed at one, often at several of the smaller universities, the last semesters being taken at one of the larger universities, situated in a large town, and so supplied with abundant clinical material for the important practical work of the final medical courses.

The method is, of course, entirely unfamiliar in America and at first only its disadvantages may be evident. It might seem that a much more full and rounded course would be obtained by constant attendance at one university where special attention had been given to the arrangement of the different subjects properly in various years, than by attendance at various universities whose courses have been arranged without reference to each other. This objection would be truer in America than it is in Germany, where all the universities are government institutions, and where all the teaching methods are modeled, as far as practicable, after a common plan. Even in the best medical schools of the United States,

however, it is probable that very little of importance would be missed if the different years were passed at different schools.

The method enables the German medical student to become personally familiar with the great makers of medicine in the various lines of medical thought and at the same time to learn something of the spirit of various German univerities. For, though all recast in the modern mold of present-day government university regulations, German universities have an individual spirit, the outcome of centuries of tradition in many cases, that is essentially distinctive. The broadening influence of this familiarity with men and cities, with methods and manners, can scarcely be overestimated, and it represents a factor in the educational formation provided by German universities that must always be reckoned upon if we are to estimate fairly the development they set in action.

Many, of course, and varied are the motives that impel students to the selection of certain universities for certain semesters. Those who are especially interested in anatomy, histology, and embryology may elect to pass their semesters in these branches at Berlin because in these subjects Waldeyer and Hertwig are names to conjure with. Those who are interested in practical physiology and its applications to clinical medicine pass a semester under Landois at Greifswald. Von Recklinghausen at Strassburg, Orth at Gottingen, Grawitz at Greifswald draw students who are or hope to be specially interested in pathology. Heidelberg gets certain medical students who are interested in surgery or nervous diseases because Czerny and Erb are there. Those who see a great future in clinical medicine for physiological chemistry, scarcely fail to pass at least a semester at Strassburg, where Winkowsky is doing such practical work in physiology and Naunyn is showing the practical application of physiological chemical principles to metabolism in health and disease.

We might continue the enumeration until the list of great German workers in medicine was exhausted. The names became familiar to German medical students very soon because there is from the beginning the question as to which teacher should be selected as the master in special branches. The very fact of having in a way to learn various men's views, to look over their books, to inquire of fellow students as to the success of their teaching methods (for they recognize here that the great scientist may prove to be anything but a great teacher), the problem of having to size up, so to say, whose *ipse dixit* seems worth being magistral in the formative stage,—all this gives a broadness of view that in medicine especially is part of the highest training. It does not degenerate so easily into that hypercriticism of other schools and other methods in medicine that is founded on imperfect and defective knowledge of men and their principles. It cultivates, yet not too precociously nor superciliously, that liberal eclecticism that seems to constitute the best basis of modern practical medicine.

Of course German medical students are not always guided by the lofty motives of pure scientific zeal, nor the more sordid ones of practical prospective utility in their selection of certain universities for certain semesters. They may go to Marburg or to Jena because Behring or Haeckel are there; yet an additional motive may be that the corps-student spirit runs high, that there is a traditional spirit of student gaiety about the universities, celebrated in song and story, that makes one wish to have pleasant recollections, that intertwine with the storied memories that cluster around the old places and are redolent of the times when great literary or scientific genius trod paths that have become so familiar. The German student may go to Greifswald because he wishes to take a course under Mosler, most magnetic of masters, though it may only be that he hopes to find the summer semester pleasanter on the shores of the Baltic Sea. He may go to Bonn because of Pflüger's physiology, or Binz's pharmacology and therapeutics, though he may go only because it is an extremely fashionable university, where crown princes and nobles go, or it may be that he wishes to subject himself for a semester to all the subtle magic of the Rhineland and its scenery and learn to appreciate its beauties.

Even when motives as seemingly adventitious and impertinent as these play a rôle in the selection of the universities at which various semesters are to be taken the result of the university career is eminently promising. There is a wider knowledge of men and methods inevitably acquired; there is the liberalizing influence of association with what is best in German educational circles; above all, there is the obliteration of the tendency to accept routinely the dicta of any school just because they happen to be emanations from that school and without the formality of personally testing their reasonableness.

Besides these more or less impalpable but very definite advantages there is the material advantage in climatology and in hydrotherapy; of knowing in various parts of the country health-resorts, and bathing- and watering-places, not as mere names, but by actual inspection and some personal experience. On the whole, a wandering American who studies the workings of the system is inclined to think it would be a source of good in America, too. The ordinary medical graduate about to take up the routine of practice would be much better fitted for a successful career by a knowledge of the men and methods of three great medical schools than of one. He might have failed to know in his last year the exactly contradictory answers that he should have given to the two professors of practice if they both happened to ask a certain question on which they disagreed. He might not know much about a number of useless drugs that the fad of a special professor of therapeutics still insisted on keeping in the program of study, though no one, not even himself, used them. He might not know the details of the last operation invented by one of his professors of surgery, but condemned by the other. In a word, the medical graduate might not pass his examinations as well, but he would be much better prepared to begin to select his practical opinions for himself. He would have had an initiation into that all important problem for the medical man, what opinions in the midst of those that are continually being put forward are worth the while stop-

ping to consider at all, and which of them are worth trying out on their merits. The critical faculty so necessary in medicine would have been called into action and a liberality given to its special applications that would promise much for the rational application of medical principles, and would not permit its possessor to be blown about by every wind of medical doctrine that came bearing with it some supposedly great medical name. We are only entering the Twentieth Century, however, not the millennium, but let us hope for the best.

SOCIETY PROCEEDINGS.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

Eleventh Annual Meeting, Held at Pittsburg, Pa., September 20, 21, and 22, 1898.

FIRST DAY—SEPTEMBER 20TH.

MORNING SESSION.

THE Association met in the assembly hall of the Monongahela House, and was called to order by the President, DR. CHARLES A. L. REED of Cincinnati, Ohio, at 10 A.M.

DR. JOHN MILTON DUFF of Pittsburg welcomed the Association on behalf of the local medical profession. Lieutenant-Governor Walter Lyon followed with a brief but very eloquent address of welcome on behalf of the citizens of Pittsburg and of the State. President Reed, on behalf of the Association, responded to these remarks of welcome in a very concise, but graceful speech.

Following the preliminary exercises came the first paper of the scientific session, by DR. FREDERICK BLUME of Allegheny, Pa., entitled

SOME OF THE COMPLICATIONS FOLLOWING HYSTERO-SALPINGO-OOPHORECTOMY IN PELVIC SUPPURATION; WITH REMARKS ON THE OBJECTIONS TO THIS OPERATION.

He said a perusal of the literature of the past few years proved that vaginal hysterectomy had made its way here and abroad. Its condemnation upon theoretical grounds had decidedly diminished. Its advantages were too plain to permit of being longer ignored. Men who, in the beginning, strongly objected or opposed this mutilating operation, as some were fond of styling it, had changed their opinions. Guided by the experience of others they had adopted this method and confirmed the assertions of its advocates that it was a conservative operation in the broadest sense of the word—a procedure which, though sacrificing the uterus, conserved the life of the patient even under circumstances where the suprapubic route would mean certain death.

The propriety of removing the uterus in suppurative disease of the appendages had been questioned ever since Péan introduced vaginal hysterectomy. Briefly stated, the chief objections were: (1) the uterus was not a useless organ after the ablation of the appendages, and should not be sacrificed unless seriously diseased. (2) Vaginal hysterectomy was an incomplete procedure, followed by serious complications and was not curative.

The disposition to preserve the uterus during the child-bearing age in women with healthy tubes and ovaries, or in unilateral suppurative pelvic disease could well be understood, but why this organ should not be removed as the initial step of a life-saving operation, when the ablation of both appendages became a necessity was beyond comprehension. The assertion that the uterus without the appendages was still an important organ; that its functions had not ceased with the artificial induction of the menopause must be rejected as untenable in the light of present knowledge. The arguments that after the extirpation of the uterus the nervous phenomena were more pronounced than when the appendages were left alone, had strongly influenced many surgeons against vaginal hysterectomy. Careful investigations, however, had shown that these arguments could not be verified. Mainzer, in a report of 200 vaginal hysterectomies for chronic inflammation of the adnexa, performed in Landau's clinic, had arrived at the conclusion that there is less disturbance of the nervous system after the radical operation than after salpingo-oophorectomy alone. He further states that the age of the patient bears no relation to the presence or absence of these nervous symptoms.

Dr. Blume does not confirm the view that the removal of the uterus increases the nervous disturbances incidental to the menopause, and he is inclined to believe that this view is based upon the complaints of neurotic women. As to the sexual passion his patients, with but one exception, state that they have as much sexual appetite now as at any time before operation. Two of them, young widows, who married a year after the operation, informed him repeatedly that they were more passionate and enjoyed sexual intercourse more than ever.

The mortality of vaginal hysterectomy was considerably less than that of the abdominal operation. There was, however, a diversity of opinion as to the ultimate results of the vaginal procedure. The essayist does not resort to the vaginal method in those cases in which there is a possibility of saving one tube and ovary, *i.e.*, in cases of unilateral suppuration even when due to gonorrhea. He is not yet convinced that both appendages must be sacrificed, far less the uterus, when gonorrheal infection is limited to one tube and ovary. His personal experience with vaginal hysterectomy for pelvic suppuration is limited to 42 cases during the years 1895, to September, 1898. This series, though small in number, was quite interesting on account of the extent and the gravity of the pathological changes. Of the 42 patients, 18 belonged to that desperate class which, if treated by the abdominal route, were either left unfinished or, according to the statements of prominent operators, had a death-rate of 25 to 30 per cent. in the hands of the most skilful surgeon. The pelvic organs were agglutinated into one mass and could not be distinguished by vaginal or rectal examination. In some instances these masses reached half way to the umbilicus; while in others the peritoneal cavity was less involved and they extended downward into the vagina, pushing the

uterus against the symphysis pubis and compressing the rectum to such an extent that an ordinary rectal tube could not be passed without difficulty. The lesions of the remaining 24 patients were not quite so extensive, yet in every instance both appendages were so far involved that a conservative operation was out of the question. Complications occurred in three cases.

DR. JOSEPH PRICE of Philadelphia said that the sexual appetite of women, alluded to by the essayist, following a variety of operative procedures, was in many instances improved rather than impaired. It was rare for a woman to complain of impaired sexual appetite after a supravaginal hysterectomy. Age, however, should be considered in discussing the nervous phenomena incident to a normal or precipitate menopause. He advocates the abdominal route, saying that the vaginal method was an incomplete one. The latter method favored bowel obstruction. Of ten vaginal hysterectomies performed by Coe in his early work, there were two deaths from intestinal obstruction.

DR. EDWIN RICKETTS of Cincinnati cited an instructive case in which it became necessary to resort to the combined method. He spoke in favor of the vaginal route in some cases, but not in all instances for pus in the pelvis.

DR. RUFUS B. HALL of Cincinnati was willing to admit that there were cases that could be dealt with by vaginal section and drainage, but the field for this operation was limited. In cases in which there were dense adhesions to the viscera good, complete work could not be done by the vagina. Experience had taught him that if a patient was under thirty-five and the uterus was removed by an abdominal operation and the cervix was left, she suffered less from reflex disturbances than she did when the uterus was left.

DR. CHARLES GREENE CUMSTON of Boston said that suppurative conditions within the pelvis demanded different treatment, according to their situation, the number of foci, their size and nature, and in making the diagnosis and considering the choice of operation, all of these things should be considered, whether the case be suitable for the vaginal or abdominal route. In most cases of pus in the pelvis, speaking in a broad sense, posterior colpotomy was a trifling operation, yet a conservative one. It could be performed in cases of chronic purulent disease of the female pelvic organs and in acute suppurations where it would be dangerous to do either abdominal or vaginal hysterectomy.

DR. JAMES F. W. ROSS of Toronto said that at the Montreal meeting of the British Medical Association vaginal hysterectomy for cancer was discussed, and his experience agrees with that of Price, that this operation for carcinoma, no matter how early it was done, was not satisfactory. High amputation of the cervix after the method of Byrne had been satisfactory in his hands.

DR. L. H. DUNNING of Indianapolis remarked that the character of the suppurative products encountered by the surgeon called for different lines of procedures. In the cases described by the essayist, in which the pus accumulations were exceedingly large, extending as high as the umbilicus, fixed, and extending down into the vagina, it had been his practice for the last ten years, and he saw no reason to change it, to do vaginal section. In such instances where vaginal hysterectomy was done it was exceedingly difficult, if not impossible, to remove the pus-sac. He had operated in fifty cases of the kind described by vaginal incision. Of this number, four patients returned for subsequent operation. All but one of them had made primary recoveries.

DR. B. SHERWOOD-DUNN of Boston believes the perfection of technic of hysterectomy by the vaginal route exceeds in difficulty that by the abdomen to a great degree. The complications following the vaginal route exceeded those of the abdominal method. The danger to the uterus, the bowel, and post-operative hemorrhage were very much greater by the vaginal than they were by the abdominal route. He restricted vaginal hysterectomy to a few selected cases where he was fearful of death of his patients by the suprapubic route. The vaginal operation was difficult, and in many instances it had to be followed by a second operative procedure through the abdominal wall.

DR. W. E. B. DAVIS of Birmingham holds that vaginal incision and drainage has a large field. There was a great deal of difference between operating upon old gonorrheal cases and upon fresh ones. Unquestionably all of the cases following the puerperal state, where the surgeon can place his finger upon the side or behind the uterus, could be dealt with better by the vaginal route. The surgeon made a mistake when he opened the abdomen to deal with this class of cases, when vaginal incision and drainage was such a simple procedure. While a few patients would return for secondary operations, the surgeon should be willing to operate several times, if necessary, to save important organs.

DR. C. A. L. REED of Cincinnati formerly resorted to the vaginal route, and, after trying it carefully and conscientiously in many cases, he had practically abandoned it and had returned to the abdominal incision. He had, however, a class of cases in which hysterectomy was a very important concomitant in the course of treatment, but even in these he does not remove the uterus per vaginam.

The paper was further discussed by Drs. A. B. Miller, of Syracuse, and J. Henry Carstens of Detroit.

AFTERNOON SESSION.

DR. D. TOD GILLIAM of Columbus, Ohio, contributed a paper, entitled

OPERATIVE TECHNIC FOR INTRALIGAMENTOUS OVARIAN CYSTOMA.

Prior to the enucleation method of Miner the surgical treatment of these cases was crude and incomplete. Miner's method marked a new epoch and will ever remain the foundation principle of their surgical treatment. It was, however, attended with so much difficulty and danger as to greatly abridge its usefulness. The chief danger was from hemorrhage, which was oftentimes fearful and not infrequently fatal. Other, and by no means unimportant, dangers came from injuries to important

pelvic structures while conducting a hurried and blind dissection. There is a crying need for something better. The essential factors of the ideal operation are: (1) Tapping, to reduce the volume of the cyst and to open the way for hemostasis and enucleation; (2) ligating the supply-vessels to control hemorrhage; (3) enucleation along the line of cleavage to insure easy, rapid and safe dissection. This technic was foreshadowed in a case which the essayist operated on October 30, 1894. Here he gained his first knowledge of the line of cleavage for intraligamentous cyst and reported it to the Columbus Academy of Medicine. In 1896 Kelly announced the line of cleavage for intraligamentous uterine fibroid. Hall (in 1897) was the first to combine all the essential factors of the ideal operation. Hall's method, however, included hysterectomy. The method of the essayist without hysterectomy is as follows: First tap the cyst and drain off its contents; then ligate the ovarian artery near the pelvic wall and place a clamp between the cyst wall and the uterus. Select a point as low down on the anterior wall as practicable, and with a pair of forceps lift up the capsule and make a small opening. Insinuate a finger and sweep it around, separating the cyst from its matrix at the base. Now turn the finger upward and work in the direction of least resistance, slitting the capsule as you go. This will indicate the line of cleavage and will generally run upward and outward diagonally across the face of the tumor. Now introduce the hand and strip off the capsule from below upward, following the line of cleavage. Enlarge the opening by making an incision parallel to the capsular margin; seize the cyst and roll it out of its bed, stripping it from the posterior capsular wall. Trim and suture as in other cases.

GENERAL CONSIDERATIONS ON SEPTIC INFECTION OF OVARIAN CYSTS.

Dr. Charles Greene Cumston of Boston read this paper. Inoculation experiments had shown that if the liquid contents of an ovarian cyst were not contaminated by bacteria they would remain aseptic and would undergo no change. But if, on the contrary, microbes attacked a cyst and entered it, its contents would serve as excellent culture-media and symptoms of infection would soon appear. But the human organism would take on the offensive and would react against the bacteria which had infected the cyst; leucocytes come from the walls of the vessels and attack the invading microbes, and thus we have the transformation into pus of the liquid contents.

There were two kinds of septic infection of ovarian cysts, namely, pathogenic infection and saprophytic infection. Pathogenic and saprophytic organisms often enter ovarian cysts through a puncture, incision, and drainage track. As puncture is discarded in a great number of instances by the majority of the profession, the patient contains the agent of the septic process under consideration. The germs do not come from without, but from the interior of the organism, and it may be called a true auto-infection, which takes place in one of three ways: (1) By means of the blood, in which case the infection is either direct, produced by phlebitis, which extends up to the cyst, or it may be indirect, in which case the infective elements are carried in the general circulation into the tumor by means of its pedicle; (2) infection may take place by the lymphatics, in which case the lymphatic channels act as the contaminating canals and allow a direct introduction of the germs into the interior of the cyst up its hilum; (3) infection through adhesions which are plentifully supplied in new-formed vessels which are intimately connected with those in the walls of the cysts, and thus allow an easy transportation of the bacteria.

After giving at considerable length the symptoms of ovarian cysts and dwelling upon the diagnosis and differential diagnosis, the author dealt with their operative treatment. Operation for the removal of ovarian cysts which are the seat of septic infection may be divided into four stages: (1) Incision of the abdomen; (2) the breaking up of the adhesions and ligation of blood-vessels which they may contain, and then the pus may be removed by trocar and not with the knife, because if the cyst is incised pus will immediately flow out and the wound will very likely become infected by the septic material. The third step in the operation is the extraction of the cyst through the wound, and in doing this the surgeon should be careful to avoid infecting the abdominal incision at the time he is drawing the pocket through, but this complication may be easily avoided if aseptic gauze sponges are tightly packed around and inside the line of incision. Next comes the ligation of the pedicle and its section, after which it is dropped into the abdomen. The fourth step of the operation consists in the cleansing of the peritoneum, which should be done with great care, especially when the operative field has run any chance of infection. If this has occurred, free irrigation of the peritoneum is proper, but it should be done with care and the liquid employed should be a warm normal salt solution. Care should be taken to limit the irrigation to the subumbilical portion of the peritoneal cavity and a back flow of the liquid toward the diaphragm should be prevented by having the operating-table perfectly flat and the thorax slightly raised.

Dr. Henry Howitt of Guelph, Ontario, read a paper, entitled

A SECOND CONTRIBUTION TO THE SURGICAL TREATMENT OF INTUSSUSCEPTION IN INFANTS, WITH CASES.

In the paper the term infant was restricted to those under one year of age. After briefly describing the different varieties of intussusception that occur at any period of life, and also referring to particulars in regard to statistics, modes of growth, length of bowel involved, and the severity of the attack in the varieties, he stated that in the infant we have only the acute forms with which to deal in practice, nay, possibly only the ileocolic, which all authorities agree to be the most acute and rapid variety of invagination. It is, he stated, the ileocecal form plus the valve distended and its lumen occluded by the swollen and edematous invaginated portion of ileum which, owing to the tight constriction at the neck by the valve, in a manner resembles a well-hammered boiler-rivet

that no evenly distributed pressure from within can force out.

The author believes that many instances of the trouble occur in infants, leading invariably to death without the true nature of the malady being recognized by the attendant; and that when the facts having reference to this variety of intussusception become generally known, fewer deaths will be recorded of certain bowel affections and more lives saved by surgical means. He has seen seven cases, six of them almost within the past five years, or since his attention was drawn to the subject. Six were in male children; all came from a district the population of which is under 12,000. He has operated successfully on four, all of whom were under six months of age. A fellow practitioner lost one owing to an accident during operation. In one case the friends refused operation and death resulted, and one died shortly after the onset before anything could be done.

The symptoms of iliocolic intussusception were fully dwelt upon. In regard to its diagnosis, the speaker emphasized the importance of the history of the onset, and stated that without it the attendant may be likened to a ship in a storm without helm or compass. In fact, the nature of the onset might suffice to make a diagnosis. The detection of a tumor in the course of the colon left no room for doubt.

The condition of this form of intussusception is such as to preclude the hope of recovery by any method short of operative. No time should be lost in trying either bowel inflation or injection of fluids. They can do no good. His method of operating is as follows: He maintains the temperature of the child by suitable applications to extremities and body during operation. Rigid aseptic preparations and precautions should be carried out. A median, three-inch incision, avoiding the high-placed bladder, is made; the small intestines are eventrated as rapidly as possible, and protected with gauze, which is irrigated with water of suitable temperature. The evisceration allows the obstructed portion of intestine to be brought into view. When, as is generally the case, the invagination has reached the transverse colon, the surgeon cannot bring it out of the wound till the part of the large bowel implicated is disinvaginated. This is accomplished by making pressure on the apex of the intussusceptum while the intussuscipiens is pulled in the opposite direction. It is done by grasping the colon close to the apex with the hand and following it up the bowel step by step till the colon and cecum are free. The mass is now lifted out of the incision. Then comes the most difficult point —the reduction of the invaginated portion of ileum. The part is grasped in the hand and firmly pressed for a few minutes; then pressure is made with the thumbs on the apex, while the fingers surround and support the outer orifice of the ileocecal valve. The method resembles that used in paraphimosis, only the large bowel covers the part from view.

Before returning the intestines to the abdominal cavity the contents of which have accumulated in the ileum above are forced through the affected part into the colon; this proves that the difficulty has been effectually overcome and ensures an early movement of the bowels. Drainage is not necessary. The omentum is spread over the intestines to prevent adhesion of bowel to the line of incision. The dressing is covered with oiled silk, the edges of which are sealed with collodion to prevent urine reaching the cut.

DR. REED said his experience was restricted to a single case of intussusception in infants. The child was operated on in extremis and died within the first five hours following the operation. With early interference the outcome might have been different.

DR. PRICE said the cases reported are a beautiful demonstration of what can be accomplished by good judgment, great diagnostic skill, and early surgical interference.

DR. W. E. B. DAVIS thought it unusual for one man to have so many cases of invagination in infants. He had only met with one case, and this occurred ten days ago, the child, a male, being eight-months old.

DR. HALL recalled half a dozen cases of intestinal obstruction in infants in sixteen years general practice that had died. He believed the invagination is overlooked in the majority of instances.

DR. JOHN M. DUFF believed intussusception in infants occurs more frequently than is generally supposed. He had held *post-mortems* on several cases where the diagnosis was doubtful, but intestinal obstruction was found. He had seen two cases within the past year; in one operation was refused, and the child died. At the autopsy intussusception was found. The other patient was operated on after peritonitis had set in, and death followed.

DR. CUMSTON had seen four cases of invagination in children.

FIRST DAY—EVENING SESSION.

DR. JOSEPH PRICE of Philadelphia, read a paper with the caption

NURSING IN ABDOMINAL SURGERY.

The time had passed when any question was raised by intelligent and experienced members of the profession as to the value of the trained nurse. Nurse-training schools had become important institutions not only to young women who with a creditable ambition entered them to fit themselves for the profession of nurse, but to the physician; for the physician, whether in general or special practice, knew the value of the trained nurse, understood the close and vital relation she held to his patient; how much her care and quick intelligence of needs did to relieve his anxiety and promote the welfare of his patients. The training of these schools should be specially and simply directed to fit pupils for the duties of nurses. These duties in all their details, and all the steps in the training essential to discharge them faithfully and intelligently, should be definitely, orderly, and clearly outlined by teachers of thorough experience. Those desiring to become nurses should commence their work early, while young, studious, and ambitious; while their habits are not so fixed as to make a change difficult, if not impossible. Too much had always been expected of nurses in private nursing. Nursing through twenty-four consecutive hours was too much to require of human endurance

and resulted in neglect of the patient. Systematically trained special nurses were usually bright, cheerful, interested, and spirited; were alive to the importance of their work; cared for and infused into their patient some of their own animation. The untrained nurse, on the other hand, was meddlesome and dangerous. Young, healthy, unmarried women were to be preferred, not widows or grasswidows, great-aunts, or grandmothers.

Second Day—September 21st.

Morning Session.

Dr. W. J. Asdale of Pittsburg read a paper in which he reported an interesting case of extra-uterine pregnancy, with mature fetus, and exhibited the specimen. The skeletal remains were borne seventeen years over the completion of gestation term, and the condition was eventually complicated by an ovarian cyst. No operation was performed. The patient died. At the autopsy a monocyst of the right ovary of large size was emptied and withdrawn. One of the long bones of a fetal skeleton was found in the pelvis free; from high in the left hypochondrium underlying the left lower ribs and just beneath the diaphragm the remains were found—skeletal—of a fetal body, disarticulated and closely packed together. The bones were invested by the intestine, a portion of which was cut away in the removal. The fetal soft parts had, at the time of autopsy, almost entirely disappeared. Records of successful operations undertaken for the removal of long-retained fetal remains were so rare as yet to be exceptional, and how much more doubtful surely would be the result of operative interference in such a complicated case as this.

Remarks on Primitive Amenorrhea, with Report of a Case and Presentation of Accompanying Pathological Specimen.

Dr. Walter B. Chase of Brooklyn read a paper on this subject in which he said that the essential fact in the sexual life of women was the predominating control of ovarian influence, and the central fact in the pathology of woman's sexual life was due in a large degree to changes or perversion of function or structure of the ovary. While ovarian function was not the single influence which swayed woman's existence, the absence of it would dethrone her womanhood. The commonly accepted theory concerning the functional activity of woman's sexual life was that menstruation marked the commencement of ovulation, and that in its ordinary manifestations they were, in point of time, coincident. The experience of all observers doubtless furnished exceptions to the common law, but these exceptions served rather to confirm than abrogate it. Among these variations or absence of physiological processes, amenorrhea in some of its forms was of common frequency. An intelligent and comprehensive distinction in amenorrhea embraced a difference between those cases which were congenital or acquired. In the former, emansio mensium or primitive amenorrhea, the causes were congenital and chiefly physical, while in the latter, suppressio mensium or acquired amenorrhea, the causes were functional, or largely so. In the first class menstruation has never been present; in the second class the function once present is arrested. Primitive amenorrhea may result from congenital deficiency or imperfect development as follows: absence or imperfect development of ovaries and uterus; degeneration of the ovaries, cystic or otherwise; the formation and development of benign or malignant tumors of the ovaries sufficient to preclude or abolish their function.

Report of Case.—Mrs. B., aged twenty-four; a woman of refinement and fine physical development; had been married about two years; was sterile, and had never menstruated. She gave an intelligent history of having had all of the symptoms which usually accompany menstruation since the age of puberty, except the appearance of the menstrual flow, commencing at about eighteen years. The symptoms of discomfort developed with perfect regularity every twenty-eight days, with a history of increasing pain and nervous excitability, until during the eighteen months previous to his having seen her the pain had become unbearable and nervous perturbation such that she and her friends feared insanity. The one subjective symptom which gave rise to her fears of mental disturbance was severe headache and pressure felt at the vertex, which was present for several days at each menstrual molimen. During a year or more she had become conscious of a gradual enlargement of the abdomen, and could herself easily define an abdominal tumor. She entered the service of Dr. Chase at the Bushwick Hospital, and a careful study was made of her case by the consulting gynecologist and himself. The patient was desirous of an operation.

Operation was performed. The first tumor removed was a dermoid and had no pedicle, but was closely adherent to the uterus and the right broad ligament. The second tumor was a suppurating multilocular cyst of the left ovary.

The report of the pathologist was: (1) that the dermoid had usurped the place and destroyed the function of the right ovary. (2) In one of the cyst walls of the multilocular ovarian cyst was found a shrunken ovary the size of a large lima bean, and within this ovarian stroma was found a corpus luteum spurium. To the presence of this ovarian stroma was due the womanly development, with ovulation, and the futile effort of menstruation and its consequent suffering. (3) It demonstrates the possibility of ovulation without menstruation. (4) It leaves us in doubt whether the absence of the Fallopian tubes was primary or secondary to the grave disease of the ovaries, with the possibility that they were congenitally absent. (5) It presents the rare and exceptional condition of a perfectly developed woman who had an ovary and uterus, who ovulated, was sterile, and never menstruated, and yet was ruined in health by Nature's effort to establish an impossible normal function.

The remainder of the session was devoted to the presentation and discussion of pathological specimens. Specimens were exhibited by Drs. John B. Deaver, X. O. Werder, Rufus B. Hall, and Wm. H. Humiston.

Afternoon Session.

President's Address.

This was delivered by Dr. Charles A. L. Reed of

Cincinnati, Ohio. He selected for his subject

THE EVOLUTION OF SPECIALISM.

He said that modern specialism in medicine dates from the period when the French schools, in the early decades of this century, took up seriously the question of pathological anatomy. This was the physical basis upon which the work of division began. The obstetrical art was as old as the function of reproduction, although the latter ages had witnessed its present refinements. It had been said that obstetrics married surgery, and that the fruit of the union was bright-eyed gynecology. The accouchement probably occurred at the time Recamier invented the speculum in 1801. While surgery had its first rational development in the United States in 1809 under the masterly hand of the immortal McDowell, everything from that day to this was essentially contemporaneous history, in which occurred conspicuously many of the proudest American names. Specialism became a verity in response to natural laws, which even to-day determined its destiny. There was not a day but that the general medical profession became enriched in resource and potentiality by the accretions derived from specialism. Each specialty, however assiduously cultivated, remained an integral part of the great general profession, the masters of which must ever stand as our ideals. All specialists to-day were primarily the products of general medical culture.

THIRD DAY—SEPTEMBER 22ND.

MORNING SESSION.

DR. D. TOD GILLIAM of Columbus, Ohio, read a paper on the

TREATMENT OF GRANULAR EROSIONS OF THE CERVIX,

and reported three cases which he had treated successfully by ligation of the cervical vessels.

DR. B. SHERWOOD DUNN of Boston followed with a contribution on

THE RELATION OF NERVOUS AFFECTIONS TO DISEASES OF THE FEMALE PELVIC ORGANS.

He limited his remarks to the great neuroses of neurasthenia, hysteria, and insanity. He was totally opposed to any operative procedure, except where pathological conditions were demonstrable. He had no confidence in operations upon healthy organs for the cure of any neurotic condition, and believed that such were now generally condemned by the profession. He, however, looks upon the position taken by some neurologists, that there is no relation of cause and effect between the various neuroses and psychoses and disease of the female pelvic organs as being as extreme and condemnatory as the advocacy of the removal of normal organs in the female pelvis for the cure of nervous diseases, by some ill-advised persons calling themselves gynecologists. In operating upon diseased conditions in the peivis, the gynecologist did not expect to remove the symptoms of the neuroses, but only those symptoms properly belonging to the pelvic disease itself. But strange and disappointing as it might seem to be to some of the critics, when those pathological pelvic conditions were removed or corrected, the nervous system relieved from the source of unceasing irritation, gradually returned to its normal poise, and the patient was cured of her neuroses as well as her pelvic disease.

DR. WM. H. HUMISTON of Cleveland, Ohio, read a paper on the

GRAVER FORMS OF NERVOUS DISTURBANCES DUE TO ORGANIC CHANGES IN THE GENITAL ORGANS.

In the last five years of his work the essayist had never operated upon a case in which the corelation between the diseased pelvic organs and the nervous symptoms were not clearly defined before an opinion from a neurologist relieved him of a doubt of a nerve or brain lesion, with one exception. He reported six cases in which great relief, in some cures, followed operative interference. The first case was one of insanity; the second, melancholia; the third, neurasthenia; the fourth, insanity; fifth, hystero-epilepsy, and the sixth, hysteria. The cases were reported with the hope that some effort would be made to secure for women confined in county and State institutions for the insane such surgical measures which would, in a large proportion of cases, be a curative means for their mental ailment, and which must, in a vastly greater proportion at least, improve their condition, both mentally and physically.

DR. RUFUS B. HALL of Cincinnati read a paper on

ALBUMINURIA COMPLICATING GYNECOLOGICAL OPERATIONS.

He referred first to the conditions predisposing to this complication. He urged careful examination of the urine preceding operation so as to determine, if possible, the presence of nephritis or other causes leading to suppression. The most common cause is a preexisting nephritis but unfortunately in granular nephritis, a most careful examination of the urine may fail to show the presence of the disease. One of these patients after the operation may have suppression followed by coma and death. He said there might also be suppression following operation in a patient with a fatty heart or with atheromatous arteries. It is of the greatest importance to have the patient thoroughly prepared for operation. If there is the least indication of preexisting nephritis, he advises chloroform as an anesthetic, regardless of the age of the patient. In his early operative work he used ether almost exclusively. He cited 110 sections in which ether was given.

In 33 cases there was a trace of albumin in the urine during the first 24 hours. In 10 cases there was partial or complete suppression and 2 of the patients died in coma. During the time he used ether, he operated on 7 patients known to have nephritis. They were given chloroform. These cases are included in 500 sections in which that drug was the anesthetic used. Eighty-five of this number showed a trace of albumin in the urine during the first 24 hours after the operation. Ten patients had suppression and 4 died of uremic coma. All the patients who were known to have kidney disease were given chloroform. There were thirty-five of these, and the deaths in the chloroform list were from this number. To avoid the dangers from the use of chloroform, he urged that its administration

be only entrusted to an expert in its use. He closed his paper with a résumé of the preliminary treatment he accords every patient about to be subjected to a section; of the manner in which he conducts his operations, and of the measures he employs if albuminuria occurs following operation.

Afternoon Session.

Dr. X. O. Werder of Pittsburg gave the clinical observations of more than 100 abdominal sections for ovarian tumors.

Dr. Frederick Blume of Allegheny, Pa., reported a case of double uterus and vagina with pregnancy in one horn, in which he excised the vaginal septum.

The election of officers for the ensuing year resulted as follows: President, Dr. Edward J. Ill of Newark, N. J.; first vice-president, Dr. Edwin Ricketts of Cincinnati; second vice-president, Dr. A. B. Miller of Syracuse, N. Y.; secretary, Dr. Wm. Warren Potter of Buffalo, re-elected; treasurer, Dr. X. O. Werder of Pittsburg, re-elected. Executive Council: Drs. A. Vander Veer, L. S. McMurtry, W. E. B. Davis, John M. Duff, L. H. Dunning, and Walter B. Chase. Indianapolis, Indiana, was selected as the place for holding the next meeting, the time of which was left to the Executive Council.

REVIEWS.

A Text-Book on Surgery. By John A. Wyeth, M.D., Professor of Surgery in the New York Polyclinic Medical School and Hospital. Third edition. New York: D. Appleton & Company, 1898.

The practical character of this text-book is the feature that has commended it to the favorable consideration of the profession. This third edition has enabled the author to bring the work up to date while retaining its practical character. Many of the chapters have been re-written and enlarged so that the work exceeds the former edition by 112 pages. Throughout all the editions the author has shown his loyalty to American surgery, and due credit has been given to Americans for their contributions to the science and to the advances which have been made in surgical work. As has been stated, the work is severely practical and mirrors the methods and treatment of the author; the etiology and pathology of disease are presented only in their most general aspects. The illustrations are very abundant, and for the most part are clear and instructive. Chapters XIV. and XV. on Aneurisms and Ligation of Arteries are especially clear—perhaps the best in the book. The author's operations for bloodless amputation at the hip- and shoulder-joints are clearly and elaborately described, and amply illustrated.

In spite of the general excellence of the work there are a few points in which the author has laid himself open to criticism. The differences between asepsis and antisepsis are not clearly defined although the general impression is that the author leans to antisepsis. The classification of pus into "surgical" and "laboratory" pus is most crude. It has always been held, and correctly so, that the margin of erysipelas is very abrupt and not as herein stated, as fading gradually into the surrounding healthy skin. What the author intends to convey by the term "aseptic poultice," as recommended in the treatment of lymphangitis is rather obscure, and the statement that tubercular adenitis is a form of lymphangitis is open to question. Priority for the method of tendoplasty for paralysis belongs to Nicolodain (1882), and not to Dr. Parrish (1892). We have always been taught that the cells lining the interior of the hydrocele sac are endothelial not epithelial as mentioned on page 836.

Numerous inaccuracies of like nature are noticeable throughout the work. The general appearance of the book is attractive and the publishers have done their part well.

Tropical Diseases; a Manual of the Diseases of Warm Climates. By Patrick Manson, M.D., LL.D. (Aberd.). New York: William Wood & Company, 1898.

The author's wide experience in this department of medicine has enabled him to talk authoritatively on the subjects which are contained in this book. After an introduction dealing with the etiology and methods of propagation of the various tropical diseases, he begins the section on fevers with a consideration of the subject of malaria. Dr. Manson is well known by his writings on this subject and in this work he refers at length to his theory of the introduction of the plasmodium into the human system. Inasmuch as he claims no more than a logical conclusion from definite data, and since recently Koch of Berlin has come to the same conclusion in reference to the mosquito being the factor of the propagation of the malarial parasite, we are inclined to believe that his theory is strongly substantiated. He lucidly shows how the malarial parasite may leave the human body affording an opportunity for its extracorporeal existence; he describes its extracorporeal history and how it enters the human body. The author is extremely modest and honest in stating his deductions as to the mosquito hypothesis, as is demonstrated by his own words: "I do not maintain that this mosquito hypothesis has as yet been thoroughly proved, but I do maintain that it is so probable, and of a character so important, from both both a scientific and practical point of view, that every effort should be made to establish or confute it."

The article on malaria is one of the best in the book and contains a vast amount of information.

Section II. deals with general diseases of undetermined nature, such as beriberi, epidemic dropsy, and negro lethargy or sleeping sickness.

Section III. is devoted to the abdominal diseases, cholera, dysentery, abscess of the liver, and some of the diseases common to specific districts in the tropics, such as infantile biliary cirrhosis, occurring chiefly in Calcutta and affecting rather Hindu than Mohammedan children, and "ponos," an analogous disease endemic in the islands of Spezzia, Ilydra, and others in the Grecian Archipelago.

The fourth section is given to the description of "infective granulomatous diseases," such as leprosy, yaws, etc.

Section V. is one of the most important in the book and deals with "the animal parasites and associated diseases." The author considers in detail the diseases produced by the parasites which are chiefly confined to the circulation and to the lymphatics, these parasites being chiefly the varieties of filaria and the *hematobia bilharzia*. He considers all the affections produced by the *filaria nocturna* such as elephantoid fever, lymph scrotum, chyluria, filarial orchitis, elephantiasis, and chylous dropsy of the tunica vaginalis and peritoneum. Endemic hematuria is considered in the article devoted to the consideration of the *hematobia bilharzia*.

The parasites confined to the connective tissue of the body and the affections produced by their presence there are next described in the chapter devoted to the guinea-worm (*filaria medinensis*). Next we find a consideration of endemic hemoptysis, due to the *parasite distoneum Ringeri*, which is confined to the lungs. The parasites of the liver and intestines are likewise considered.

The last two chapters are devoted to a description of the various skin diseases found in the tropics, some of which, such as Madura foot and dhobic itch, are caused by vegetable parasites, and to local diseases of uncertain nature.

The book contains, as will be seen from the above résumé, a large amount of matter. It is surprising that the author was able to condense all this matter in so compact a space without a sacrifice of clearness and accuracy of description. The book does not claim to be a complete treatise on tropical diseases but simply an introduction to this important department of medical science. As such it more than fulfils the requirements, and will serve the student as an accurate guide.

ATLAS OF LEGAL MEDICINE. By DR. E. VON HOFMANN, Professor of Legal Medicine and Director of the Medico-Legal Institute at Vienna. Authorized Translation from the German. Edited by FREDERICK PETERSON, M.D., Clinical Professor of Mental Diseases in the Woman's Medical College, New York; Chief of Clinic, Nervous Department, College of Physicians and Surgeons, New York. Assisted by ALOYSIUS O. J. KELLY, M.D., Instructor in Physical Diagnosis, University of Pennsylvania; Adjunct Professor of Pathology, Philadelphia Polyclinic. Philadelphia: W. B. Saunders, 1898.

THE publishers are to be congratulated in again putting before us one of Lehmann's superb atlases, and it is not at all surprising that these works have appeared in nine different languages, for until now the means of producing illustrations in colors or otherwise faithfully to represent normal or diseased conditions have not been entirely successful. A cursory glance at the Lehmann books is at once convincing that a new era has begun in this line.

The work before us comprises a large number of full-page plates, many of them in colors, and numerous smaller illustrations, representing common and rare conditions of pathologic and medico-legal interest. The text supplies simply a brief history of each case and the necessary data bearing upon the subject, the deductions in each case of suicidal or homicidal death being characteristic of the immense experience and logical mind of the late author.

The work is not only valuable to the expert in forensic medicine and the clinician but is indispensable to every worker in the autopsy-room and the pathologic laboratory. The editors have closely followed the original text and have done their part in an admirable manner. The book is published in the same convenient and handy size as the original and we can heartily recommend it and trust that it may reach the eyes of all interested in the subject.

THERAPEUTIC HINTS.

For Severe After-Pains.—

℞ Antipyrin . . . . . gr. iiss
Quininæ sulphat. . . . . gr. iii.

M. Ft. chart., No. I. Sig. One such powder every three hours while pains remain severe. If the condition of the patient should contraindicate antipyrin, the following powder may be substituted:

℞ Pulvis opii } aa . . . . . gr. ½.
Camphoræ }

M. Ft. chart., No. I. Sig. One powder every hour until relief is obtained.

Sedative Mixture in the Treatment of Uterine Fibroids.—

℞ Sodii bromidi }
Ammonii bromidi } aa . . gr. lxxx
Strontii bromidi }
Aq. dest. . . . . ℥ viii.

M. Sig. Two to three tablespoonfuls daily.

For Intermittent Fever when it does not yield to treatment by quinin alone, BACELLI recommends the following combination with arsenic and iron:

℞ Quininæ sulphat. . . . . ℥ i
Ferri et potassii tartrat. . . . ℥ iiss
Acidi arseniosi . . . . gr. i ⅔
Aq. dest. . . . . ℥ x.

M. Sig. On the day following the fever, one tablespoonful every hour; on the next day every three hours, and so on in this manner.

Powder for a Suppurating Surface.—

℞ Iodoformi }
Salol }
Bismuthi subnitrat. }
Pulv. carbonis } aa . . . ℥ ii.
Pulv. cinchonæ }
Pulv. benzoini }

M. Sig. For external application.

For Sick Headache.—

℞ Ol. caryophylli . . . . *m.* xl
Ol. cajaputi . . . . *m.* lxxx
Sodii bicarb. . . . . gr. lxxx
Chloroformi . . . . gtt. lxxx
Tinct. cardamomi comp. . q. s. ad. ℥ ii.

M. Sig. One teaspoonful three times a day.

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXXIII. NEW YORK, SATURDAY, OCTOBER 8, 1898. No. 15.

ORIGINAL ARTICLES.

ARE COMPLETE CASTRATES CAPABLE OF PROCREATION?[1]

BY F. R. STURGIS, M.D.,
OF NEW YORK.

THE subject that I have selected for your consideration may perhaps cause a smile on the ground that it is one of scientific curiosity rather than of practical worth; but a moment's reflection will, I think, show you that it is of value, if not from the purely surgical side, at least from the standpoint of forensic medicine.

Scattered over the pages of medical literature are instances in which the legitimacy of a child has been called into question on account of a suspicion as to its paternity, and it oftentimes becomes of importance not only for the good name of both woman and child, but also sometimes for the inheritance of estates, that this question should be solved. While we admit that the absence of testes in the male throws a strong doubt upon the legitimacy of the child, I myself believe that there is some evidence within certain limits to support the view that a man who is deficient in both of his testes may yet be the father of his child, and I ask your consideration, first, in order to detail the experiments bearing upon this point, which have been made on animals, and, second, in adopting the deductive method of reasoning to take up those cases in which men who have become eunuchs have yet been reputed to be fathers of children.

The possibility that entirely castrated animals may within certain limits be capable of procreation is as old as the days of Varro, who, in his book "De re Rustica," stated that he had "found something written of these animals (to wit, bulls) that is noteworthy; that even when the testes are abstracted, if they are put at once to cow they are capable of procreation." (Liber ii, 1619.) Aristotle, also, in his "History of Animals," Book iii, says: "And it has happened that a bull has begotten young if admitted to the female immediately after castration." Whatever we may think of the scientific knowledge of the ancients, there is no reason to doubt the accuracy of their statements; they were acute observers, and so far as their eyes were of any use they knew what they were talking about.

Passing on from the Greek and Roman writers to the Arabian school of medicine, I have not been able to trace any evidence whatever that this subject was studied, possibly for the reason that the Arabians, the Saracens, and the Moors were not prone to practise castration either upon man or beast.

The next mention of this subject which I can find is contained in the *American Intelligencer*, for the year 1838, in an article, entitled "Note on the Power of Procreating after Castration": "A question has been asked, whether, if a man be castrated after the age of puberty he may not be able for a few days after the operation to impregnate with the sperm contained in the seminal ducts and vesicles. . . . This has been generally doubted, both as regards animals and man, but there is no question of the fact in the case of the former. . . . We have recently obtained the following information on this point: A valued friend of the editor (Dr. Pue), who practised in Baltimore, has furnished him with many facts of the kind which fell under his own observation or that of his friends. In one case a boar was observed on one side of a hedge in a field of his farm striving to get at some sows in heat on the other side. The boar was castrated and no inconvenience being apprehended he was turned loose into the field with the sows. In five minutes after the operation he had intercourse with one of the sows and subsequently with others. The first sow brought forth a litter, the young marked like the sire. None of the others was impregnated.

"In another case, after a horse had been castrated, it was recollected that the yard had not been washed, which it seems is looked upon as advisable. To save trouble it was suggested that the same effect might be produced by putting him to a mare then in the stable and in heat. This was done and in due time the mare brought forth a foal unequivocally the result of this sexual union.

"A gentleman who is a great breeder of horses in Saratoga County, New York (Mr. Walton Hamilton), informed the editor's friend, Nicholas P. Frist, Esq., United States Consul at Havana, that he had known several instances of impregnation after castration."

In the same journal the same year is another article on "The Power of Procreating after Castra-

[1] Read before the American Association of Genito-Urinary Surgeons, June, 1898.

tion," which contains a letter addressed to Professor Dunglison by Joseph Warrington, Esq., in which he says: "In looking over a recent number of the *American Library and Intelligencer* I perceived some notices of occasional instances of the capability in animals to procreate after castration. Although contrary to the general impression that this function is immediately destroyed by the removal of the testes, I am prepared to credit the statement by an observation which I made several years since. A sow in heat had left the herd of a neighboring farm, and visited that on which I then resided, in search of a boar, which having, as was supposed, served the purpose of impregnating all the sows of that and the adjoining farms had been fully castrated two days before this visit. With nearly his accustomed energy, however, he covered the sow, which, without further coition, ceased to be in heat, and in due time produced a litter of pigs. The barrow from that period never evinced either inclination or ability for sexual intercourse."

In similar statements which have been made not only by ancient but by modern authors, it is noticeable that no particular period is assigned within which the fertility of the procreating powers is retained; and while it would seem very probable that the power is not entirely lost for some little while after the mutilation has taken place, we are unable to say up to what time that power exists.

The next series of experiments which I have to present are those of Obolonsky,[1] who experimented upon two dogs, in both of which animals the testes were entirely removed. In the first dog the secretion of the vesiculæ seminales was examined *seven days* after castration, when spermatozoa were found in great quantity, but without motion. On the addition of a weak solution of bicarbonate of soda, however, the movement of the spermatozoa became quite lively and they appeared to be perfectly normal. In this dog the external wound of operation had not entirely healed. In the second, the wound had entirely healed, the examination being made *thirty-one days* after the operation. The contents of the vesiculæ seminales showed abundant spermatozoa, but less in quantity than in the first case. At first they were without motion, but upon adding a weak solution of bicarbonate of soda they became quite lively. So far as the microscopic appearances went they were perfectly normal, and Obolonsky is of the opinion that had the dog at that time indulged in coitus he would, everything else being equal, have proved fruitful.

The next series of experiments were those made by Masuraca.[1] His experiments were nineteen in number, made upon fourteen animals, seven of which were dogs, four cats, and three guinea-pigs. The technic consisted in removal of the testes by a transverse incision into the scrotum, and after removal the cord and the vasa deferentia were ligated and the wound dressed antiseptically. The only exception was in the case of the guinea-pigs, in whom, the testes being in the belly, no ligation was made; otherwise, the procedure was the same as in the other cases. Death was induced by hanging. In all the subjects of the experiments spermatozoa were found in the epididymis. Of the seven dogs that were experimented on, the first was killed twenty-four hours after the operation. In the vasa deferentia normal spermatozoa were found, few in number and endowed with motion. The second dog was also killed twenty four hours after the operation. In it abundant normal spermatozoa were found which were for the most part endowed with movement. The third dog was killed three days after the operation. In it normal spermatozoa were found, of medium quantity and without motion. It is worthy of note that in the hanging of this dog a white milky drop came from the urethra which, on being examined, contained no spermatozoa whatever. The fourth dog was killed sixty-four hours after the operation. Abundant spermatozoa were found, which were normal in appearance and endowed with motion. In this dog, also, during the process of hanging, a white drop came from the urethra in which no spermatozoa were found. The fifth dog was hanged four days after the operation. In it a moderate number of normal spermatozoa were found, but they were all motionless. In the sixth, the animal was killed five days after the operation. Only a few spermatozoa were found, but these few were normal in appearance and endowed with feeble movement. The seventh dog was killed seven days after the operation. In this animal the vasa deferentia were empty. Only one single body which looked like a spermatozoon was found which was endowed with a head. The body was thickened; it was crumpled in appearance and seemed to have become granular.

Of the cats, which were four in number, one was killed four days after the operation. During the hanging the bladder was emptied and a milk-white drop exuded from the urethra, which, upon examination, was found to be full of normal spermatozoa. The hanging was interrupted and the animal resuscitated. This same animal was hanged upon the next day, five days after the operation. Abundant spermatozoa were found in the vasa deferentia and these

[1] *Vierteljahrschrift für Gerichtlichen Medezin*, N. F. Bd. 48, p. 362, 1888.

[1] "Sopra un Importante Questione Relative alla Castrazione."

were for the most part endowed with motion. The second cat was hanged six days after the operation. In this animal only few spermatozoa were found, some of which were endowed with feeble motion. The third cat was despatched seven days after the operation. In this animal the spermatozoa were present in large quantities, but they were not endowed with motion. The fourth cat was hanged twenty-five days after the operation and in this animal no spermatozoa were found, nor were there any bodies which looked at all like spermatozoa.

Of the three guinea-pigs, the first one was killed four days after the operation. In the vasa deferentia of this animal abundant spermatozoa were found but they were all straight and motionless. The second guinea-pig was hanged six days after the operation. During the hanging a large milk-white drop escaped from the urethra, which, upon examination, was found to contain numerous cellular elements of various size and abundant spermatozoa, which were straight and not endowed with motion. In the case of this animal, the hanging was interrupted; it was resuscitated and was used again for the third experiment, when it was killed eight days after the operation. During suspension many milk-white drops exuded from the urethra, which were found to contain an abundant number of cells with spermatozoa, having the general appearance that was present in this same animal two days before. These spermatozoa were not endowed with motion. Although an effort was made to resuscitate this animal, it was unsuccessful. The third guinea-pig was used for an extended series of experiments, being hanged no less than four times before it was finally despatched. The first time it was hanged ten days after the operation and during suspension an abundant milky secretion exuded from the urethra. This secretion was found to contain numerous cellular elements and an abundant quantity of straight and motionless spermatozoa. Some of these spermatozoa were seen to have their tails curled and to be slightly thicker than normal. As noted above, this animal was cut down before it was completely dead and was resuscitated without any trouble.

The fifth experiment (third guinea-pig) was made fourteen days after the operation. As before, the usual drop appeared at the urethra and this drop revealed, upon examination, an abundant number of straight, motionless spermatozoa, with clear outlines. This animal was again resuscitated and used as the subject for the sixth experiment. It was again suspended seventeen days after the operation. The usual urethral drop made its appearance, which, upon examination, showed granular degeneration of the epithelial cells, free fat globules, and some motionless straight spermatozoa. The same animal served as the subject for the seventh and final experiment, twenty days after castration. The usual urethral drop appeared during suspension, which, under the microscope, showed epithelial elements, no spermatozoa, and some white dodecahedral crystals which upon the addition of acetic acid took a crystalline form resembling a Latin cross (Boettcher's crystals?).

These experiments are interesting because so far as animals are concerned there seems to be a difference in the viability of the spermatozoa after complete castration. In the dogs, which were seven in number, and in whom seven separate experiments had been made, spermatozoa were found on the sixth day, few in number it is true and with feeble movement, but still spermatozoa, proving that the semen was more or less fruitful. On the seventh day we practically for the first time lose sight of the spermatozoa. The dog has now become sterile, as, of course, he would sooner or later become on the loss of his testes. With regard to the cats, there seems to be a wider limit. These cats were four in number, und upon these four, five experiments were made. Up to the end of the first seven days spermatozoa were abundant, but without motion.

It is to be regretted that in all these cases where spermatozoa, although present, were motionless, Obolonsky's experiment of adding a weak alkaline solution to the semen was not tried, as it is very possible that the spermatozoa would have become endowed with motion and the semen become practically a fertile fluid. Probably this takes place in the natural condition when the spermatozoa come in contact with the alkaline secretion of the uterus, and it is likely that the secretion of this organ is alkaline for the very purpose of securing the viability of the spermatozoa and the consequent fertility of the semen.

In the guinea-pigs we find a curious condition of affairs. Three of these animals were used for the purpose of experiment and on these three animals seven experiments were made, two upon one animal and four upon another. In these three animals, although the spermatozoa were fairly abundant up to the fourteenth day after the castration, in none of them was the spermatozoa found to be endowed with motion outside of the body; and in two experiments—the ones made upon the seventeenth and twentieth day after the operation—degenerative changes had taken place. In one—that is on the twenty-fifth day—the spermatozoa were entirely absent, and on the seventeenth day, although they were present, it is very evident that they were not normal, and probably not fertile.

Let us turn now from animals to man and note

what has been found in those individuals who have been castratedas regards the question of their fertility or sterility. Krugelstein, in Henke's *Zeitschrift der Staatsarzneikunde*, 1842, relates the case of a merchant who had both testes removed for some disease. The wound healed and he married. His wife became pregnant. In addition to this case others are noted, but as in many of them I have been unable to consult the originals, I have omitted doing anything further than report them by name. I refer to the cases of Cornelius Consentinus of Bohn; of Bellefontaine, of Zipans, and of Sanchez.

Sedillot, in his "Manuel Complet de Medecine Legale," borrows a case from Boyer, in which the latter was consulted by a man from whom he had at one time or another removed both testes for sarcocele. After recovery from the second operation he continued to cohabit with his wife, who became pregnant a short time afterward. The man, being somewhat disturbed, consulted M. Boyer, who in order not to "disturb the peace of the household," told the man that such a thing was quite possible, but added that it was his last child and if any others appeared he might be quite sure that they did not belong to him.

Krahmer[1] reports a case of a young peasant, twenty-two years of age, who performed self-castration with a razor. Both testes were entirely and thoroughly removed. Eleven to twelve days after the operation he had a seminal emission during his sleep. Unfortunately no examination was made for spermatozoa and it is only mentioned here as instancing the possibility of a seminal emission occurring twelve days after the operation of castration.

The last of all is the case which has been reported by Princeteau in the *Annales des Maladies des Organes Genito-Urinares* for 1890, taken from the "Proceedings of La Société d'Anatomie et de Physiologie de Bordeaux," in which the patient, a young man, had lost both testicles by castration from tuberculous disease and in whom upon examination no trace or fragments of these organs could be found. Notwithstanding this fact the young man frequently practised coition, and had ejaculation of a fluid containing spermatozoa, of which Princeteau showed some preparations.

Having now gone over all the cases, experimental as well as clinical, which have occurred in animals as well as men which have been accessible to me, let us group them together and see what deductions we can draw from them. First, as regards the animals. Those taken from ancient authors are, of course, of no service excepting as being confirmatory of what has been subsequently proved by direct experiments. In these cases it is to be noted that no particular time has been assigned as a limit beyond which spermatozoa are not found until we come to the letter which was published in the *American Medical Library and Intelligencer* for 1838, by Mr. Joseph Warrington, with regard to the boar. He apparently was able to impregnate a sow two days after he had been fully castrated. Then come the experiments of Obolonsky and Masuraca, in which some effort is made to give a time-limit within which spermatozoa are found in the seminal secretion after complete castration. In Obolonsky's cases, which only include two experiments, the longest limit is thirty-one days after castration, a far longer time than Masuraca had been able to note in his experiments. If you remember in Masuraca's experiments on dogs, the viability of the spermatozoa in the dog appeared to be extinct after the fifth day, for although at that date the spermatozoa were normal in appearance, they were but few in number and endowed with feeble movement. In the dog which was killed on the seventh day after the operation, the vesiculæ seminales were found to be devoid of spermatozoa. I should be inclined, therefore, to regard with some suspicion the experiment of Obolonsky, in which he found viable spermatozoa thirty-one days after castration, and to believe that some mistake had been made as to the number of days after castration in which the examination for spermatozoa had been made.

As regards the cats, four of which were experimented upon, up to the end of the first week (seven days) spermatozoa, perfectly normal in appearance but without motion, were found, but no examination was made between the seventh and the twenty-fifth day afterward on the last cat. In this animal no spermatozoa, were found, nor were there any bodies which looked at all like them. In the cat, therefore, as well as in the dog, we must place the limit at seven days.

The guinea-pigs, however, showed spermatozoa up to fourteen days after the operation, but in none of these cases, even when examined shortly after the operation (four days) did the spermatozoa seem to be endowed with motion. On the seventeenth day the same guinea-pig, which at the end of the fourteen days showed an abundant number of spermatozoa, exhibited seventeen days after the operation nothing upon examination but a diminished number of spermatozoa, with evident degenerative changes going on in the epithelial cells and elsewhere, and three days later no spermatozoa at all, so that it would appear as if the guinea-pig was capable of retaining normal spermatozoa for a fortnight after the removal of the testes.

If we come to man we are at once brought face to

[1] "Handbuch der Gerichtlichen Medezin," 1857.

face with this fact: that with the single exception of Princeteau's case we have no data to show how long after castration the human semen contains spermatozoa. That it does do so up to a certain time is shown by Princeteau, but what that limit is it is impossible to say, for he has neglected to give the length of time after castration at which the semen was examined. If, however, we argue by analogy from animal to man, we shall perhaps be justified in saying that if coitus take place within seven days after castration, impregnation of the woman may occur if all the conditions are favorable. But suppose the intercourse take place ten or fourteen days after castration, can the eunuch become a father? is he capable of procreation? To this question in the present state of our knowledge it is impossible to give a definite answer, but the probabilities are that it would be in the negative, although Gould and Pyle[1] state that spermatozoa have been found days and weeks after castration, and the individuals during this period were capable of impregnation. These gentlemen do not give any authorities for this extraordinary statement.

To sum up the conclusions at which I have arrived in studying this question, I should state them as follows:

1. In animals, for a varying period after complete castration, normal spermatozoa are found in the contents of the seminal vesicles.

2. This period varies in different animals, being six days for the dog, seven days for the cat, and fourteen days for the guinea-pig.

3. In man, clinical cases are recorded where fecundation of the female has occurred after coitus with the male who has been completely castrated, but in accepting the correctness of such statements we must remember the adage that accidents may happen in the best-regulated families. Still, Princeteau's case (if correct) proves that spermatozoa do exist for a certain time in the seminal vesicles of a eunuch, and arguing from analogy in what occurs in animals this is quite probable.

4. Still pursuing the analogy, in man, as in the dog and cat, a complete castrate *may* be capable of procreation provided the coitus occur within the first seven days after the castration.

For Bad Breath.—

℞ Tinct. myrrhæ, Tinct. lavandulæ } aa . . . ℥ iii
Glycerini pur., Sol. Labarraque } aa . . . ℥ iiss
Inf. salviæ . . . . . ℥ viii.
M. Sig. Mouth wash.

[1] "Anomalies and Curiosities of Medicine."

THE IMMEDIATE AND REMOTE RESULTS OF SEVENTY-ONE ALEXANDER AND SEVENTY-ONE SUSPENSIO-UTERI OPERATIONS.[1]

By W. L. BURRAGE, M.D.,
of Boston.

The paper here presented is based on 71 Alexander and 71 suspensio-uteri operations performed by the writer during the six years from 1891 to 1897, inclusive, the first Alexander having been done August 7, 1891, and the first suspension August 1, 1893, so that a majority of the Alexanders were performed in the earlier years of this period and a majority of the suspensions in the later years. The facts in this paper are from my private operation-records written by myself on the day of the operation, with very few exceptions, and during the subsequent convalescence and whenever the patient again came under observation. With 3 exceptions, all of the 142 patients were examined by me personally at the time of their discharge, two or three weeks after the operation, and notes made of the existing condition. These notes form the basis of the immediate results here chronicled. For the remote results the patients were examined at least three months after their operations, for the most part by the writer, but in several instances where the patients were at a distance by their attending physicians, who kindly reported the results to me. Sixteen patients it was impossible to trace at all, and 7 were reported as being free from uterine symptoms, or wrote me to that effect. Reliable statistics were obtained from 62 Alexander and 60 suspension cases, 122 out of 142 cases. None of the patients died as a result of the operation. Three, upon whom the Alexander operation was performed, have since died, 2 of pneumonia and the other of unknown causes.

The Alexander Operation.—Sixty-four operations. Technic: Locate pubic spine by touch. Incision six centimeters long, nearly parallel with Poupart's ligament, the lower end of the incision being at the pubic spine. Dissection of the subcutaneous fat layers until the glistening fibers of the aponeurosis of the external oblique are brought into view. All the structures in the external abdominal ring are seized with tissue-forceps and drawn up. Here it may be said in passing that the author has never failed to find the ligament. A small hook is passed under all the tissues and is then replaced by the operator's finger. The nerve is separated from the ligament and drawn to one side. Traction is made on the ligament, and after it has been pulled out to its uterine enlargement the same procedure is adopted

[1] Candidate's paper presented for admission to membership in the American Gynecological Society at its Twenty-third Annual Meeting, held at Boston, May 24, 25, and 26, 1898.

with the ligament on the opposite side, the uterus is anteverted by bimanual touch, and the ligaments are anchored to the pillars of the ring by two ligatures of fine silk to each pillar. Silkworm gut, kangaroo tendon, and chromicised catgut were used in some instances, but fine silk as a general rule. If the ligament is much bruised it is cut off, otherwise it is left in the wound. The wounds are closed with interrupted sutures of silkworm gut passing through skin and fat, and catching up a few fibers of the aponeurosis of the external oblique so as to leave no dead space. Some of the wounds were closed with a continuous suture of either catgut or silkworm gut passed subcutaneously. The dressings consist of dry powder, aristol, or sterilized nosophen dusted on the wound, and dry gauze stuck to the skin with corrosive collodion to prevent contamination of the wound from the patient's finger or the subsequent shifting of the dressing.

Seven operations by the Edebohls' method. Slightly longer incision. Inguinal canal laid open by dividing the aponeurosis of the external oblique in the direction of Poupart's ligament up to the internal abdominal ring. Isolation of the round ligament in the canal by means of hooks, and separation of the nerve. Drawing out of the round ligament up to its uterine enlargement and stripping back of the peritoneal investment. After the other ligament has been shortened the position of the fundus uteri is verified by the operator's little finger passed through the internal ring. The edge of the internal oblique muscle is stitched to Poupart's ligament by a continuous suture of chromicised catgut, No. 2, the needle passing through the round ligament with each stitch and thus securely anchoring it. The aponeurosis of the external oblique is closed with the same stitch, which is tied with its other end at the upper limit of the wound in the aponeurosis. By this procedure there is only one knot in the entire operation. The ligament is cut off at the external ring. The wounds are closed and the dressings are applied in the same way as in the other method.

Although the Alexander operation was primarily intended for cases of retroversion without adhesions, its field has been amplified in my hands by performing it in conjunction with posterior colpotomy in cases of moderate adhesions. This was done in nine of my cases with good results. The colpotomy proved especially useful where the uterosacral ligaments were tight. Where the ovaries were prolapsed and free from adhesions the Alexander operation, in certain cases, has restored them to a normal position, but when adherent, or when the ovarian ligaments have been long, it has not done so in a majority of cases even with the aid of colpotomy.

A glance over the tabulated statistics of the 71 Alexander operations, shows that 34 are cases of retroversion free from adhesions, 7 of retroflexion free from adhesions, 28 of retroversion or retroflexion with some adhesions or with tight uterosacral ligaments, and 2 of procidentia. One or both ovaries were noted as being prolapsed in 16 cases. An inguinal hernia existed on one side in two cases, and a radical cure was effected in the course of the Alexander operation in each case. Curetting of the uterine cavity was done in every case. Amputation of the cervix and the ligature operation for hemorrhoids were each done once. Trachelorrhaphy and perineorrhaphy were performed together 7 times, perineorrhaphy alone 6 times, and trachelorrhaphy alone 9 times.

The immediate results of the 71 Alexander operations were good in all but 6, 92 per cent. Of these 6, 1 only was a total failure, the other 5 being classed as fair. The cause of the failure is not plain as the ligaments were of good size, were anchored with silk, and the wounds healed by first intention. One ligament broke off in the course of the operation in five cases. As a result, the uterus was in the first degree of retroversion at the time of the patient's discharge in 3, and later, completely retroverted in all except 1. This patient went through a normal labor one year and five months after the operation, and subsequently the uterus was in good position and well involuted. The first 4 cases, taken together with one case in which there was only one ligament to shorten because of a previous ovariotomy, and in which there was an ultimate failure, would argue against trusting to one ligament to hold the uterus in place. In one or two other cases the ligament broke during the operation and was recovered by opening the entire inguinal canal and fishing for the ligament through the internal ring. In the one Edebohls' operation where the cord gave way at its uterine insertion, the fault was due to using too great force in pulling on a fatty cord in a fleshy patient through an error in not appreciating that the fundus uteri was already well up.

Pregnancy has taken place in 12 cases, 19 per cent., following operation. The pregnancy and labor were both normal in 5 of these. Of the remaining 7, 1 had a tedious labor terminated by forceps, and, following that, three miscarriages. Six years after the operation the uterus was found retroverted. It was noted in this case at the time of her discharge from the hospital after the Alexander operation that from the one-sided position of the uterus one ligament had probably given way. In another there was prolonged suppuration in the wounds and the silkworm-gut ligatures which had anchored the liga-

ments came out. Here the uterus was found retroverted in early pregnancy. Another patient miscarried at seven months from overwork. The uterus was subsequently in good position. Another had pain in the left groin while pregnant, and her labor was slightly tedious. The uterus was in good position afterward. Another is now pregnant in the early months, while still another was eight-months' pregnant when last seen and had had no unusual symptoms. Another had a normal pregnancy, but the labor was long and the placenta was adherent requiring manual extraction, which was followed by sepsis. Five weeks after labor the uterus was found retroverted and adherent, a condition not to be wondered at in the light of the sequelæ of the confinement, but two months afterward it was small and in good position. To sum up: Pregnancy and labor were both normal in five cases; pregnancy was noted as being abnormal in the remaining cases three times; labor abnormal three times; pregnancy normal three times, and labor normal once. Abortion resulted from the operation in no case. The uterus was retroverted following labor in 4 cases.

The tables show that out of 62 cases examined the ultimate results were good in 48, 77 per cent., and failures in 14, 23 per cent. The other 9 cases were classed as unknown. It is to be remembered that of the 14 failures, 6 were immediate partial or complete failures also, leaving 8 cases in which the uterus became retroverted subsequent to the discharge of the patient. Four of these became retroverted, as already stated, after a subsequent labor. It is noticeable also that all of the immediate partial or complete failures were afterward traced and the results appear again in the list of ultimate failures. The large percentage of ultimate failures is to be attributed to lack of skill on the part of the operator, most of the failures being among the earlier cases, and to the fact that the operation was sometimes performed in unsuitable cases.

A left inguinal hernia followed the Alexander operation in two instances. In one the cords were slender and the rings normal in size, while in the other the cords were very large and the rings large. The ligaments were anchored with catgut in both cases. In both the uterus was in good position ultimately. Pain in the scars followed the earlier operations where the nerves were not carefully separated from the cords, but not in the later operations. No bladder symptoms as resulting from the operation have been noted in any of the cases.

The Suspensio-uteri Operation.—Technic: For convenience of description the 71 cases may be divided into (1) those in which the uterus was suspended by attaching the fundus uteri to the parietal peritoneum, and (2) those in which suspension was accomplished by sewing the round or ovarian ligaments to the parietal peritoneum.

1. Of this class there were 58 cases, divided into 11 for the posterior face of the fundus, 11 for the top of the fundus, and 36 for the anterior face of the fundus. Permanent ligatures of silk or silkworm gut passing through muscle and fascia as well as peritoneum and constituting ventral fixation, were employed only seven times. Both ovaries and tubes were removed in two of these and one or both ovaries resected in the others. It is interesting to note here that only one of these patients has since become pregnant, and she was reported by her physician as having had pain during early pregnancy, but later to be entirely free from it. This was a case of extensive suppuration following pelvic abscess, where the adhesions between the fundus and the parietes must have been very dense.

The usual method of operating is as follows: Unless there is much work to do in the pelvis in the way of operating on the ovaries and tubes, the incision is short, six centimeters, in the median line, with its lower end not nearer than three centimeters to the symphysis pubis. The uterus is brought up to the abdominal wound by two fingers of the operator's left hand. A slender, full-curved needle with a round point, and threaded with a carrying thread, is passed through the transversalis fascia and peritoneum at a distance of one centimeter from the right edge of the incision, then through a deep bite of the fundus uteri, and finally through the peritoneum and transversalis fascia on the left edge of the incision. The carrying thread is used to draw through a strand of No. 2 or No. 3 chromicised catgut. Two or three stitches are inserted, that through the top of the fundus being quite superficial in the uterine tissue. Care is observed in not interfering with the uterine ends of the tubes and in not attaching the fundus too close to the pubes. Tying the uterine sutures closes the peritoneum except for a short space in the upper part of the wound, which is closed with a continuous stitch of fine catgut. The linea alba is dissected out and the bellies of the recti are approximated by two or three interrupted stitches of No. 2 chromicised catgut, each stitch catching up the underlying peritoneum so as to leave no dead space. The fascia is closed by a continuous suture of the same material and the skin by a subcutaneous right-angled silkworm-gut suture. Dressings of dry powder on the line of the wound and dry sterile gauze stuck to the surrounding skin by corrosive collodion.

2. By the round or ovarian ligaments, 13 cases, 8 of the former and 5 of the latter. The incision into the peritoneal cavity is the same as in suspension of

the fundus. If by the round ligaments, the ligament on one side is pierced at a point three centimeters from the uterus by a round-pointed, full-curved needle carrying fine silk. The needle is then made to pierce the peritoneum and overlying transversalis fascia at a point two centimeters outside of the line of the abdominal incision and five centimeters from the symphysis pubis. Another stitch is placed on this side and two similar stitches on the opposite ligament and all are tied. In cases where the ovarian ligaments are very long, allowing complete prolapse of the ovaries, the same procedure is carried out with the ovarian ligaments as with the round ligaments, two fine silk stitches to each ligament being used. The abdominal wound is closed and dressed as in the other form of suspension.

Glancing over the tables it appears that in 40 cases suspension was done for retroversion, retroflexion, or retroposition accompanied by more or less extensive adhesions; in 19 cases for retroversion, retroflexion, or retroposition without adhesions; in 6 cases for prolapse; and in 6 cases to prevent ovarian prolapse, or, after the removal of severe grades of inflammatory affections of the ovaries and tubes, to prevent retroversion of the uterus into the raw surface left by their removal. Both tubes and ovaries were removed in 13 cases, one ovary in 34 cases, the ovaries and tubes were resected in 17 cases, and nothing was done to the ovaries or tubes in 15 cases. Every effort was made to preserve some healthy ovarian tissue and, considering the severity of many of the cases, the number in which both ovaries and tubes were removed is a small one.

The immediate results were good in every one of the 71 patients except that 5 had mural abscesses. As far as the uterus was concerned it was suspended in good position at the time of the patient's discharge. As regards symptoms, the pain immediately following was inconsiderable in almost all. A few patients complained of a drawing feeling in the uterine region on coughing and sneezing during the first days after being up and about. In no case was there interference with micturition.

Subsequent pregnancy has resulted in 7 cases, or 12 per cent. Of these, 5 women have had normal pregnancies and normal labors, and one of them is now five-months' pregnant for the second time, and is not having pain. The remaining 2 of the 7 are now pregnant. One, four months along, is having no special symptoms to mark this pregnancy from her former ones; the other, six months along, has already been referred to as having had pains but as now free from them.

In the 5 cases in which normal pregnancy and labor has taken place the uterus was found in good position two months after labor in one, a case of suspension by the anterior face of the fundus, and in another, a case of suspension by the round ligaments, the uterus was found retroverted two years later. One of the remaining three is now pregnant again, and of the other two it has been impossible to obtain the facts because the patients live at a distance.

When we take into account the fact that a majority of the suspension operations have been done during the past year and a half, it is not surprising that fewer of these women have become pregnant than has been the case with those upon whom the Alexander operation was performed, to say nothing of the suspension operation having been accompanied by the removal of one or both ovaries in 66 per cent. of the cases as against the Alexander, in which, with one exception, the ovaries and tubes were not operated upon.

Of the 60 patients examined as to ultimate results, the results were good in 56 and bad in 4. Four of the 12 patients counted as unknown, wrote that they were relieved of their symptoms. Not including these we have 93 per cent. of good results and 7 per cent. of failures. Only one of the failures followed pregnancy, and that one was a case of suspension by means of the round ligaments. In another, also a suspension by means of the round ligaments, the ligaments gave way ultimately. The other two suspensions were by the anterior and top of the fundus. In one there was suppuration in the wound, while in the other, the union was by first intention, but there was a question as to the patient having had an abortion not long after the operation. There was a small hernia in the cicatrix in one case two years after the operation. There had been suppuration in this wound while the patient was in the hospital. In no case were there symptoms pointing to strangulation of a loop or loops of intestine due to the suspending ligaments or bands.

In contrasting the Alexander with the suspension operation as to immediate and remote results one is impressed at the outset with the fallacy of statistics. Knowing as we do that many of the Alexander operations have been performed on patients upon whom, in the light of a larger experience, we should elect to do the suspension operation, and also that the Alexander operations on my list having been begun so much before the suspensions that there has been with the former a longer period of time in which to allow of pregnancy to occur and of late results to be gathered, we are prepared to have the Alexander operations make a poorer showing. The immediate results of the Alexander operations were 92 per cent. good, as against 100 per cent. good for the suspen-

sions. The remote results of the Alexander operations were 77 per cent. good, as against 93 per cent. good for the suspensions. Hernia followed the Alexander operation in 3 per cent., and the suspensio uteri in 1.7 per cent. Twenty-five per cent. of the subjects upon whom the Alexander operation was done who became pregnant had tedious labors. No tedious labors after the suspensio-uteri operation have been noted. One of each class of patients had excessive pains during the early months of a subsequent pregnancy. One-third of the Alexander subjects had the uterus retroverted after labor. In the suspension cases the statistics as to this fact are defective. Only one patient was known to have had retroversion following labor.

Pains in the scars have been noted after certain of the earlier Alexander operations, and rarely these pains have persisted a considerable length of time. These may be contrasted with the drawing sensation noted after some of the suspension operations, but the drawing sensation has never been of more than temporary duration. After neither operation was there interference with micturition, and neither operation was the cause of abortion or miscarriage.

General conclusions: (1) The Alexander operation is preferable to the suspensio-uteri operation because it seeks to support the uterus by its natural ligaments. (2) The Alexander operation is indicated in retroversion, retroflexion, and retroposition without ovarian disease. (3) In retroposition with tight uterosacral ligaments posterior colpotomy for the purpose of dividing the tight ligaments may be performed with advantage, together with the Alexander operation. (4) In ovarian prolapse, especially if the ovarian ligaments are long, the Alexander operation cannot be depended on to raise the ovaries into a normal position. (5) One round ligament is not sufficent to maintain the uterus in place. (6) The Edebohls' operation, although requiring a longer time for its performance than the operation at the external ring, is the preferable operation because by it the round ligament, being uncovered in the entire length of the inguinal canal is less liable to be broken; also, because this method does away with the need of anteverting the uterus bimanually in the course of the operation; and finally, because of the secure manner in which the ligament is anchored and the inguinal canal closed, making subsequent hernia impossible. (7) Although the Alexander operation leaves two scars on the abdomen, they are so situated as to be covered by the pubic hair and are subsequently less of a disfigurement than is one scar in the median line. (8) The suspensio-uteri operation is indicated in retroversion, retroflexion, and retroposition with ovarian or tubal disease, whether inflammatory affections or prolapse. (9) The best method of performing the suspension is by means of absorbable ligatures passed through the anterior and upper portions of the fundus uteri and through the parietal peritoneum and transversalis fascia only. Thus an elastic band is created between the parietes and the uterus which maintains the uterus in place and does not cause interference with the enlargement of the anterior fundus during subsequent pregnancy. (10) Suspensio uteri leaves but one weak spot in the abdominal parietes predisposing to hernia, instead of two, as in the Alexander operation. (11) In the great majority of cases, neither operation is the cause of complications in subsequent pregnancy. Whatever complications do occur are not of a serious nature. (12) In all cases of doubtful diagnosis in which the condition of the ovaries and tubes cannot be determined accurately the suspensio-uteri operation is to be preferred to the Alexander operation.

YELLOW FEVER AND THE ABUSES OF QUARANTINE IN THE SOUTH DURING THE EPIDEMIC OF 1897.

By DILLON J. SPOTSWOOD, M.D.,
of Mobile, Ala.

Thus great Achilles who had shown his zeal
In healing wounds, died of a wounded heel.
—O. W. Holmes.

On the 13th day of September, 1897, the first case of yellow fever in Mobile was officially reported to the local board of health by Dr. Edwin L. Marechal. Though an epidemic of suspicious fever had been prevailing in Ocean Springs, Miss. (distant about 50 miles from Mobile and 80 from New Orleans), since July, 1897, and which had on two occasions been investigated by "experts" from Louisiana, Alabama, and Mississippi, not until September was it recognized as yellow fever. During all of this time constant communication had been kept up between Ocean Springs, Montgomery, Mobile, New Orleans, and other towns of importance in the Gulf region.

On the 14th day of August, 1897, Dr. J. M. Holloway of Louisville, Ky., reported to the Louisiana and Mississippi boards of health that he had treated a *well-marked* case of yellow fever in the person of a man recently arrived from New Orleans. Yet the prevalence of yellow fever in New Orleans was not officially known until September, 1897. Though there had been a great deal of fever prevailing in Mobile and some cases of a suspicious nature as early as July 26th, not until September was a single case reported as at all doubtful.

Is it not pertinent, under the circumstances, to ask which of the many State and local boards of

health was responsible for the almost criminal negligence of allowing an infectious disease to be spread broadcast through the country? The reign of terror under the régime of the "shotgun quarantine" and the numerous town, city, and county boards of health has been already too vividly described by the press despatches and correspondents of our daily papers to require more than brief mention. There were two occurrences, however, that were so lawless, unnecessary, and brutal in their nature that one shudders to think that selfish fear could make such unfeeling, canting cowards out of human beings. The writer details them as of special interest. On Septemper 5, 1897, eight days before a case of yellow fever was reported in this city, Mrs. D., an old lady, left here to visit her son in Selma. Her stay there was uneventful until September 14th, when she was informed by the authorities that she must leave the town and go to the "detention camp" some miles distant and remain for twenty days before returning to the city. She protested that she had violated no quarantine law as she had left Mobile eight days before yellow fever had been reported. In spite of her protests and her son's influence she was dragged from her comfortable home, placed in a leaky country log-cabin, not good enough for pigs to occupy, and fed upon food of which a decent cornfield negro would have complained. To cap the climax, the food was served on tin plates without knives or forks. She begged them to allow her to return to Mobile and face the danger of infection, or to go anywhere rather than die of hunger and neglect. But all to no avail. She was compelled to remain for twenty days, contracting rheumatism, from which she has not yet recovered. And all of this was done by order of the "*august*" Dallas County Board of Health, composed of medical men (?). Shortly after yellow fever had been reported a train-load of refugees was passing through Montgomery, en route to Atlanta. Before reaching Montgomery, every window and door had been shut by order of the "health" authorities. A gentleman who had been almost overcome with the heat and dust had the courage to open a window—immediately a gun was pointed at his head and he was informed unless that window was closed at once he would receive the contents of the gun.

Are there recorded in Spanish history any acts more brutal than those perpetrated by "shotgun quarantines"? A condition of affairs little better than anarchy existed for more than two months in the Gulf States. Federal, State, county, and municipal health authorities were in constant conflict.

To show the utter disregard in which the State board of health and State health-officer were held by county boards: The health-officer of Alabama issued an address to all the county boards of the State, instructing them to recognize health-certificates of the U. S. Marine Hospital Service after the holders had been subjected to ten-days' detention in the Government camp. Without an exception they refused to follow the instructions of the health-officer, the majority making twenty days the limit of detention. Not only did the county boards treat with contempt the State health-officer's instructions, but they actually restricted his movements. He attempted upon one occasion to go from Montgomery to Mobile and was informed by the Montgomery board that if he visited Mobile he would be quarantined and not allowed to return for twenty days. Nor was the condition of affairs in towns and cities any better. A "rigid" house quarantine was established by the Mobile Board of Health, which consisted of one guard stationed at the *front gate* of the infected house, the back gate and side entrances being unguarded and free to exit and entrance. Much to the disgust of the olfactories, and little to the discomfort of microbes, crude carbolic acid was freely sprinkled in the streets, while backyards and alleys were neglected. But the most absurd performance was the senseless quarantine that was kept up during the entire epidemic against other infected cities, while every portion of this city was infected.

The maintenance of the house and other quarantine cost thousands of dollars that might have been spent in improving the wretched sanitary condition of the city.

Some quarantine regulations were really amusing: A barrel of carbolic acid that was shipped to Selma had to be thoroughly fumigated before it was allowed to be landed in that town. A large load of rocks from a hundred miles up the Tombigbee River that passed down the river (by the city) had to be "disinfected" before it was unloaded at Fort Morgan, where the material was to be used in building harbor defenses. No doubt the health authorities had detected numerous "yellow microbes" upon the wharves, anxiously awaiting the approach of the barge, to pound upon the unsuspecting rocks. So absurd were the quarantine regulations imposed by the Selma health authorities and the intervening counties that the officers of the Mobile and Birmingham Railroad had to discontinue all trains over their road until quarantine was raised. Is it any wonder then that the quarantine has a much greater terror for all sensible people than the dreaded yellow fever itself? Is it any wonder that all classes of business men cry aloud to the government to save them from the local quarantine fiend and establish a national

quarantine, based upon reason, justice, and humanity; quarantine regulations that may be enforced without paralyzing business and stifling commerce? Would it not be a wise step for the people of the South since the war with Spain has ended to discuss some plan to repel an invader more fatal to human life and the prosperity of the country than a hostile host of armed men? Should not a foreign disease be treated as a foreign enemy and the entire strength of the nation be centered in the federal government to deal a death-blow to pestilence; to establish system and order, where chaos and confusion now reign supreme, among local quarantines? In the name of humanity, of decency, of common sense and reason, let the medical profession implore the people of the South to change their present system of criminal quarantine regulations that has been such a reproach to our honored profession.

Having in the first part of this article given a general idea of the outrages perpetrated upon the people of the South in the name of quarantine, the last part will be occupied in giving the symptoms and treatment of a few cases of the disease.

It is interesting to know that the death-rate in yellow fever in private practice is less than ten per cent.; yet upon the advent of yellow fever in the early fall out people rush at a breakneck speed to localities where scarlet fever, smallpox, diphtheria and typhoid are indigenous, any one of which has a higher death rate than yellow fever. When seen in time and properly treated yellow fever is to be far less dreaded than typhoid with all of its complications and dreaded accidents that may occur at any hour.

The greatest difficulty in the management of yellow fever is the diagnosis. As the veteran Creole physician, Faget, of New Orleans has tersely remarked: "Is the diagnosis of yellow fever well established? It is not."

From severe attacks of remittent and dengue it is exceedingly difficult to differentiate. It is entirely out of the question to be at all dogmatic in the diagnosis of yellow fever. The following prominent symptoms which are by no means pathognomonic may be noted in well-marked cases: Want of correlation in pulse and temperature; slow pulse and high temperature. Besotted or bloated appearance of the face and eyes as if the patient were just recovering from a debauch. A full and uneasy sensation about the stomach, with tenderness upon palpation. Intense pain in head, back and limbs. Neuralgia of eyelids that may persist throughout the attack. About the third or fourth day albumin may appear in the urine, but it is absent in a great many cases. There may occur suppression of urine, also, about the fourth or fifth day, which may be considered among the most dangerous symptoms. Jaundice sometimes appears as early as the third day, but is oftener postponed until the later stages. It may be general or circumscribed, the icteroid hue being confined to the conjunctivæ, forehead, and cervical region. Late in the attack the pulse may become very rapid and weak, the patient sinking rapidly. Hemorrhages sometimes occur from the nose, lips, gums, and bowels. Fissured lips, with a serosaguinous discharge and the formation of dark-looking scabs, are common in severe cases.

The febrile paroxysm is by no means limited to seventy-two hours, as is dogmatically insisted upon by some authorities. The fever in many cases lasts for six, seven, and sometimes ten days in the severer cases. During the stage of calm, which is marked by a defervescence in temperature and a decline of the more acute symptoms, the patient often expresses himself as feeling much better. This is the most critical part of the disease, the time of occurrence of the dreaded black vomit and suppression of urine. The inexperienced physician might be inclined to believe that the crisis had passed, but really this period of the disease is attended by more danger than any other.

Is it possible to make a diagnosis of yellow fever under three or four days? It is not. At least three of the prominent symptoms should be present, together with a history of exposure to infection. From fatty infiltration of the heart the general circulation is impaired, hence if a vascular portion of the body, as the face, forehead, or neck be pressed upon with the finger, a white spot is made, and upon the removal of the finger the circulation is much longer in returning to the anemic area than in other cases. The sluggish circulation accounts for the dusky, livid color of the face and injected conjunctivæ.

I have now described briefly the most prominent symptoms of yellow fever, yet any physician who has had anything like an extended experience in the treatment of fevers will tell you he has seen the identical symptoms in both remittent and dengue. Fortunately for science and the reputation of the physician, death almost invariably occurs among the first two or three cases in the beginning of an epidemic, and an autopsy removes all doubt. It must be very evident to the practitioner, even of limited experience, that in a self-limiting disease, whose etiology is a specific poison not yet definitely known, the only treatment to be thought of is to combat the symptoms as they appear. No routine is possible in contending with this fever. However, there are certain rules that must be adhered to; these more properly come under the direction of the nurse: (1) Keep your patient in the recumbent position during the

entire attack. Never allow him to get up to void urine or move the bowels. Always use the bedpan for this purpose. (2) Have the room thoroughly ventilated, but avoid drafts on the patient. (3) Keep him quiet, allowing no one in the room except the attendants and near relatives. (4) Use only the covering that is comfortable for the patient. No good and much harm is derived from profuse sweating under blankets. (5) Never crowd the stomach with fluids. Use crushed ice and cold drinks in small quantities often repeated. (6) If possible, keep the patient in ignorance as to the nature of his disease. People have been known to die of fright when told they had yellow fever.

According to Sternberg the secretions in the alimentary canal become very acid during an attack of yellow fever. To neutralize this condition he has recommended the following:

℞ Hydrarg. bichlorid. . . . gr. ⅓
Sodii bicarb. . . . . ʒ iv
Aquæ . . . . . Oij.
M. Sig. Two tablespoonfuls, ice-cold, every two hours.

I have substituted the following with excellent results:

℞ Sodii bicarb. . . . . ʒ iv
Aqua menth. pip. . . . . Oij.
M. Sig. Two tablespoonfuls every two or three hours, ice-cold or with crushed ice.
℞ Sodii sulphocarbolatis . . . ʒ ij.
Ft. pulv. No. 8. Sig. One powder every three hours with soda solution.

The sulphocarbolate of sodium very often quiets the stomach where the bichlorid causes nausea and vomiting, besides the antiseptic effect is equally as efficient as the mercuric salt. For hyperpyrexia there is no better antipyretic than ammonol, gr. vj to gr. viij, with a tablespoonful of whisky or a teaspoonful of aromatic spirits of ammonia every two hours until the fever falls below 102.5° F. I have not in a single case noticed any depression, cold sweating, or cyanosis from the use of this remedy, as often occurs with the use of the other coal-tar products.

At the outset of an attack, if a purgative is required (which occurs ninety-nine times out of a hundred), the following should be prescribed:

℞ Hydrarg. chlor. mitis . . . gr. vj
Sodii bicarb. . . . . gr. vj
Aq. menth. pip. . . . . *m.* ss
Sacchar. lac. . . . . gr. x.
Ft. pulv. No. 2. Sig. One powder at once, repeat and in six hours if bowels have not moved.

A tablespoonful of good brandy or whisky in a wineglassful of crushed ice should be given every three or four hours. As the stomach for the first five or six days of the attack is not capable of digesting any kind of food none should be given; the alcohol must be depended upon to supply the required nourishment. If conditions make it necessary, liquid food by the rectum may be resorted to. It is of the utmost importance that nothing be given that in the least deranges the stomach, for there can be no doubt that black vomit is due to the constant irritation of the stomach by foods and medicine. It were better that *all* medicine be discontinued than for the patient to have an irritable stomach and have him exposed to the danger of black vomit. Where there is great depression and an unusually slow pulse, strychnin sulphate, $\frac{1}{40}$ of a grain, and nitroglycerin, $\frac{1}{100}$ of a grain, should be given every three hours, and the dose of alcohol increased. In one of my cases the pulse ran as low as 39 to the minute, when strychnin and nitroglycerin were given every two hours for two days with good results.

For suppression of urine good results have been obtained from calomel in ½-grain doses every hour or two. Hot applications and counterirritation over the kidneys have given favorable results. The fatty infiltration of the heart and other important organs requires that the convalescence of this fever be handled very cautiously. The diet should be most guarded and the return to normal feeding must be accomplished in the most careful and gradual manner. Many a life has been sacrificed to a whim of the palate. Out of some two hundred cases of fever treated by me last fall thirty were yellow fever, and it is not without a feeling of pride that I can truthfully state that I lost not a single patient. The clinical histories of three typical cases are herewith appended.

Case I.—W. C., male, aged twenty-four years; American, native of Mobile, Ala. Temperature ranged from 104° F. on the first day of the disease to 98½° F. on the tenth day; pulse ranged from 114 to 50 during the same period. For five days after the tenth day the pulse ranged from 40 to 50 with normal temperature and great prostration. Albumin appeared in the urine on the third day. Terminated in recovery.

Case II.—G. K. C., male, aged thirty-five years; American, native of Monroe County, Ala. Temperature first to tenth day ranged from 104° F. to normal; pulse from 84 to 58. On the tenth, eleventh, twelfth, and thirteenth days the pulse went as low as 39 and was almost imperceptible at the wrist. Recovery.

Case III.—Jno. R., male, aged twenty years; American, native of Mobile, Ala. Temperature ranged first to tenth day 102°F. to normal; pulse, 88 to 80. There was intense neuralgia of the eyelids and hemorrhages from the gums, lips, nose, and bowels. Recovery.

In the long list of details, which, of course, are too numerous for all to come within the scope of this

article, the writer has forgotten to mention the management of nausea and vomiting. A great many remedies that have been used in ordinary cases of sick stomach may be resorted to. I have found cocain hydrochlorate in ¼-grain tablets dropped on the tongue and swallowed rapidly will relieve the most intense nausea. Given in solution it is absorbed by the mucous membranes before reaching the stomach. A small ice-bag or an ice-cold towel placed low down on the throat and the face sponged with cologne-water will greatly assist the cocain. Three grains of bismuth subnitrate and $\frac{1}{10}$ of a grain of calomel given with 5 grains of sugar of milk and $\frac{1}{10}$ of a drop of oil of peppermint every hour or two will sometimes relieve the patient. The old remedy of burning the epigastrium thoroughly with a mustard plaster should never be neglected. Finally, when all have failed, morphin and atropin, hypodermically, may be cautiously used. The phosphate of codein should be tried first.

THE EFFICIENCY OF GLYCERINATED VACCINE VIRUS AS USED BY THE VACCINATING CORPS OF THE NEW YORK HEALTH DEPARTMENT IN PRIMARY VACCINATIONS.[1]

By F. S. FIELDER, M.D.,
OF NEW YORK:
MEDICAL INSPECTOR, NEW YORK HEALTH DEPARTMENT.

THE following report is presented upon the efficiency of the glycerinated vaccine virus produced by the Vaccine Laboratory, and used by the Vaccinating Corps of the Division of Contagious Diseases of the New York Health Department during the thirteen months ending December 1, 1897. The report is based on the number of *primary* vaccinations performed and inspected, as shown by primary lists furnished by the vaccinators. All cases have been disregarded in which for any reason the results of the vaccinations were not learned. The number of vaccinations performed and inspected during November and December, 1896, was 1062. During 1897 almost all of the work was done during the months of April, May, June, September, October, and November, and the number of vaccinations inspected was 19,742, making a total for the eight months of 20,804. Of these, 20,420 were successful and 384 failed, the percentage of successes being 98.106. Some of the vaccinators failed to indicate upon their lists the laboratory numbers of the different lots of virus which they used, so that it has been impossible to classify all the vaccinations according to the virus employed, but a special effort has been made to trace the failures back to the virus used, and this has been successful in most instances. The accompanying list shows the source of the virus in the unsuccessful cases:

Animal No.	No of Failures.	Remarks.
173	1	
177	2	
195	9	
197	1	
199	171	
202	8	1 patient 10 years old. 1 " 8 " "
203	17	1 " 13 " " 1 " 35 " " 1 " 41 " "
206	25	1 " 47 " " 1 " 36 " " 1 " 23 " " 1 " 12 " "
209	8	1 " 19 " "
215	1	
216	70	1 " 24 " " 1 " 30 " "
217	1	
218	3	
220	11	1 " 12 " "
221	14	
222	2	
228	3	
232	1	
236	2	
239	5	
241	4	
243	1	
245	3	
246	3	1 " 13 " " 1 " 8 " "
247	2	
282	1	
286	1	
288	4	
289	1	
296	1	
Unknown	8	1 " 10 " " 1 " 24 " "
Total.	384	

From this list it appears that the virus from two particular animals, calves 199 and 216, was responsible for a very large proportion of the failures. From calf number 199 the number of vaccinations inspected was 428, of which 257 were successful and 171 failed, the percentage of successes being 60. From calf number 216 the number inspected was 242, of which 172 were successful and 70 failed, the percentage of successes being 71. Of the 384 failures, then, calf number 199 and calf number 216 are responsible for 241, or 63 per cent., leaving 141 failures, or 37 per cent., distributed among 28 other lots. Excluding the cases vaccinated with the two lots of particularly poor virus, we find in 20,134 cases, 19,991 successes and 143 failures, the percentage of successes being 99.29.

An examination of all the reported failures with reference to the ages of the persons vaccinated, shows that 15 cases, though classed as "primaries," were so old that it is more than likely that they were revaccinations. Excluding these, we have 20,119

[1] From the Vaccine Laboratory of the New York Health Department.

cases, 19,991 successful, and 128 failures, the percentage of successes being 99,363.

The virus issued by the vaccine laboratory usually retains its activity for at least six months, and it is not easy to explain why lot 199 deteriorated so quickly. The following facts may be stated:—Calf, number 199. (1) The vaccination "took" well on the animal. (2) The pulp collected was ground up with chemically pure glycerin in the proportion of 4 c.c. of glycerin to 1 gram of pulp. (3) The virus on original clinical test, and in first retest "took" well, but it showed signs of deterioration only two months after collection (a few days after the virus was issued to the vaccinators). It might at first be supposed that too much glycerin was added, for most of the virus issued has been made up in the proportion of 2 or 3 c.c. of glycerin to 1 gram of pulp, but we are obliged to abandon this view when we find that all the lots from 191 to 202 were diluted 4 to 1, and that while calf 199 was responsible for 171 failures, only 18 failures are charged against the eleven other lots.

In connection with calf number 216, the following facts may be stated, but it must be admitted that they hardly furnish a satisfactory explanation of the failures charged against the virus: (1) The vaccination "took" fairly well, though not ideally, upon the animal. At the time of collection the vesicles were somewhat flattened instead of being well elevated. (2) The virus was made up with 3 c.c. of chemically pure glycerin to 1 gram of pulp. (3) On the original test the virus gave evidence that its quality was somewhat below the very high standard reached by most of our virus. This test consisted in 5 primary cases, each vaccinated in 3 spots. The result, instead of being 15 "good" vesicles, was 15 vesicles of which two were "good," 11 were "fair," and 2 were "small." Two weeks later a retest of 1 case, vaccinated in 3 spots, gave 3 vesicles, 2 fairly good, and 1 fair, though rather small. Further retests were as follows: at 1 month after collection 1 case gave 3 "good" vesicles; at 2 months, 1 case gave 3 "good" quality, fair-sized vesicles; at 3 months, 1 case gave 3 "good" vesicles; at 4½ months, 1 case gave 3 good quality but small vesicles; at 5 months, 1 case failed in all of the 3 spots of insertion; at 6½ months, 1 case gave 3 good vesicles again.

It will thus be seen that although the virus from calf 216 was not originally as ideally good as most of the virus issued by the vaccine laboratory, yet, in the hands of the clinical tester, it continued for more than 4 months to "take" in every spot in which it was inserted. This, of course, carried it beyond the date of its issue to the vaccinators.

SUMMARY OF RESULTS—PRIMARY VACCINATIONS.

Nov. 1, 1896 to Dec. 1, 1897.	Successful.	Failed.	Total.	Percent. Success.
All cases included.....	20,420	384	20,804	98.106
Two lots of poor virus excluded (c. 199 and c. 216..	19,991	143	20,134	99.29
Fifteen probable revaccinations excluded.....	19,991	128	20,119	99.363

ADDRESS.

THE CORNELL UNIVERSITY MEDICAL COLLEGE.[1]

BY J. G. SCHURMAN, A.M., D.Sc., LL.D.,
PRESIDENT OF CORNELL UNIVERSITY.

THE origin of the Cornell University Medical College reminds one of the birth of Minerva. That goddess, you remember, sprang full-armed from the brain of Jove. Our medical college is almost as miraculous a creation. A year ago no one dreamt of its existence. To-day it stands before the world with an actual organization and a potency of achievement which presage its manifest destiny as the America acropolis of Æsculapius.

I know no better illustration of Professor Huxley's saying that "the question of medical education is, in a very large and broad sense, a question of finance." Most assuredly this institution could not have come into existence but for the unlimited capital which a wise head and generous hand have furnished for its foundation and support. That munificent gift is the offering to humanity of one who feels deep sympathy with his suffering fellowmen and who believes that their lot is to be ameliorated by the elevation of medical education. "I suppose," this generous benefactor once said to me, "we all want to do some good in the world, and I should like to do something by improving the education of that profession which cares for the lives of men, heals their wounds, and alleviates their sufferings." Of such a compassionate heart and intelligent understanding was the Cornell University Medical College born. By the star of our nativity, therefore, we are dedicated to noble things. With such a consecration, which will prove a never-failing inspiration, let us, in that spirit of fraternal union which gives irresistible strength, strive by zeal, diligence, and wisdom for the fulfilment of the high trust committed to us. Here and now let us resolve that, so far as in us lies, the humane and lofty purpose of our founder shall be accomplished.

I have no doubt whatever that we shall succeed in our task. If our hopes are sanguine, if our am-

[1] Delivered at the opening exercises of Cornell University Medical College at New York, October 4, 1898.

bitions are high, if we presume to make our aim a goal yet unattained, do we not also set out on our career under circumstances more favorable than have ever smiled upon any similar institution since medical education began with the University of Salerno? Much may be expected of this medical college for much has been given to it. I speak not only of capital, which, however, is forthcoming for every reasonable object. Nor have I in mind material structures, though our local habitation in spacious proportions will soon rise, like a thing of splendor and beauty, to crown this section of our great metropolis. My thought is rather of *men*. For it is true now as always that, though money be the indispensable condition, the real and essential cause of the success of any institution is to be found in the *men* who are its active soul. If, therefore, my expectations are pitched high for this medical college, it is primarily because it is organized with a remarkably strong, though still incomplete, staff of instruction—a body of picked men, a corps of physicians and surgeons whose practice puts them in the van of their profession, and whose gifts as teachers, already exhibited in other schools, have won for them the united admiration of rival bodies of students. Personally I count it a peculiar privilege that I am to have the honor of association with these distinguished gentlemen in the elevation of medical education and the advancement of medical science in this great city of New York. I regret that I am not better qualified to aid them. I am not a physician or the son of a physician. And yet, to be quite frank with you, I wish I had some qualification that might commend me to the confidence of this portion of the medical public. But I have neither rags nor tatters to hide my utter nudity. Perhaps, however, your sympathetic imaginations will invest me with at least the semblance of a decent robe if I tell you that my *Alma Mater* has on her rolls, not only the name of Huxley, but those eminent medical practitioners and reformers, Sir Henry Thompson, Sir William Jenner, Henry Maudsley, Sir Morrell MacKenzie, and, greatest name of all and of the century, Sir Joseph Lister. And you may be kind enough to think that a college which turns out such men is not likely to breed in any of its sons indifference to, or lack of sympathy with, the science and art of medicine.

The work and fame of this medical college, then, are in the hands of its faculty. You will agree with me that they are in safe keeping there. But I should not have done justice to my own feelings, or fully described the support of this institution, if I did not mention another feature of its existence, a feature which I may be pardoned for thinking of cardinal importance, as it explains and justifies—especially as nothing I have to say would else justify—the prominence which has been given to my unworthy self in these proceedings. This medical College is a department of Cornell University. And by that description I mean to say that it is a real, integral, and vital part of the university. In other words, the legal corporation, known as Cornell University, has exactly the same rights, powers, responsibilities, and jurisdiction in regard to this new department as it has hitherto exercised in regard to every other department of the university. The only difference is that a wealthy philanthropist gives us an endowment for the conduct of the department of medicine while many of our other departments are unendowed and must take their chances of support out of the general funds of the university. This difference is momentous indeed from the point of view of permanent and assured vitality and efficiency. But considering the mere fact of organization I repeat that the Medical College stands on precisely the same footing as the Academic Department, the College of Law, or the Sibley College of Mechanical Engineering. The faculty in every case is charged with the educational administration of its respective college, but all business is conducted and all appointments are made by the Board of Trustees of Cornell University. The members of the Faculty of Medicine receive fixed stipends like the professors in other departments; and as they have nothing to do with the business affairs of the college, so they have no interest in the fees received for tuition, which are turned into the treasury of Cornell University. The faculty, in a word, is an educational body.

You may ask if it is possible for the Board of Trustees of Cornell University, meeting in Ithaca, to manage wisely the affairs of their medical college in New York? Let me remind you, by way of answer, that this is an age of telegraphs, telephones, and rapid travel. But not only this. Following a precedent already established in connection with some of the other colleges of the university, the Board of Trustees have established for the Medical College an advisory council, consisting of the dean and two members of the Faculty of Medicine, three trustees (who are residents of New York), and the president of the university as chairman, whose duty it is to digest all business affecting the medical college and make recommendations thereupon to the board for formal action. This system, which insures a thorough consideration of every question from every point of view, promises the happiest results. The council meets once a month, on the day following the monthly meetings of the faculty.

So much of the anatomy and physiology of the Medical College as one of the organs of Cornell Uni-

versity. Let me now turn to the inner and ideal side of this relationship.

Though the physical distance between the Medical College and the other departments of Cornell University is greater than it is in the case of Harvard or Columbia, I believe I am not mistaken in the belief that the connection is really closer. For the men of the first and second years are free to study either here or in the Academic Department at Ithaca, while in the case of the women they are even required to go to Ithaca. It is a characteristic of Cornell University, whose charter consecrates it to both "liberal and practical education," not to draw sharp lines of demarcation between the academic department and the professional schools. It has always been recognized that when the curriculum of the classical colleges was enlarged so as to provide for the sciences of Nature and the modern humanities—as from the beginning it was enlarged at Cornell—then the Academic Department, instead of withdrawing to the seclusion of an imaginary superiority, in fact became the foundation and the fruitful ally of every technical, scientific, or learned profession. Nearly half the work of our engineering courses is given in the Academic Department. And we were glad to make a similar arrangement for the medical student. While on this subject of inter-relationship I may add that the graduates of every one of our professional colleges enjoy equally with the Bachelors of Arts the privilege of voting for alumni trustees. I suppose we may soon expect to see an influx of medical members into our board!

There is another feature of Cornell University which is of no little importance in the consideration of medical studies. From the beginning we have given prominence to the natural sciences. Of course the physico-chemical sciences were indispensable to the success of our engineering departments. But though we had no medical school, which imperatively called for the biological sciences, these were nourished with equal care and assiduity. I need only mention the name of Professor Wilder as a guarantee of the quality of the work done. But not only were physiology, anatomy, and the kindred sciences cultivated by the university; their indispensable importance to the physician and surgeon was recognized at a time when students at medical schools were accustomed to hear "lectures upon surgery without any knowledge of anatomy and upon therapeutics while ignorant of physiology" (Dr. Wilder in *Boston Medical and Surgical Journal*, June 24, 1875). Indeed, within two years after its opening in 1868, Cornell University had arranged a four-years' course in natural history leading to the degree of Bachelor of Science, which was well adapted to the needs of students who contemplated the study of medicine; and in 1878 for such students as could not take this full course, a shorter two-years' course was provided, in which a large amount of time was devoted to practical work in anatomy, physiology, histology, and chemistry. Any one who knows how these sciences were in those days neglected in the medical schools will perhaps feel that there is a certain propriety or poetic justice in the endowment which Cornell has at last received for the establishment of a great medical department.

This is the attitude of Cornell University to the sciences of Nature; this is what she has done for the scientific preparation of students for work in the medical schools. Is not her spirit and aim wonderfully congenial with the spirit and aim of a modern medical school? What is needed for the training of physicians and surgeons to-day? I answer, first, science; secondly, science; thirdly, science. If two or three generations ago medicine was, on the side of theory, pretty much where Harvey had left it in the Seventeenth Century and, on the side of practice, scarcely in advance of that of Celsus or Galen, the last half century has wrought an entire change. As Sir Joseph Lister recently said, in his presidential address before the British Association for the Advancement of Science, "the practice of medicine in every department is becoming more and more based on science as distinguished from empiricism." Recall only the discovery of the functions of the spinal cord, of reflex action, of anesthetics, of the antiseptic method, of the germ theory of disease; think only how the prolongation of life and the lowering of the death-rate (in the City of New York from 32.2 to 19.5 in forty years) has been effected by scientific hygiene; enumerate only such instruments as the stethoscope, the ophthalmoscope, the laryngoscope, the pleximeter, the cardigraph, the spirometer, and the sphygmograph; consider the significance of these essential facts of the healing art of to-day and you will agree with me that modern medicine has been "scientificized." Now I do not claim that Cornell University has in any special way contributed to this transformation of empirical into scientific medicine. But I do assert that from the day of her origin she has observed the change, welcomed it, and endeavored to give her students the training necessary for the understanding of and participation in it. And so to-day she says to every one of these students, master your sciences or you never can be a physician or surgeon worthy the name. As Huxley once put it in an address to the students of my *Alma Mater:* "I do not believe that all the talking about, and thinking of, medical education will do the slightest good until the fact is

clearly recognized that men must be thoroughly grounded in the theoretical branches of their profession." And these branches Huxley reduces to physics applied to physiology, chemistry applied to physiology, physiology and anatomy.

Some of you will say that it is impossible to master the scientific bases of medicine in the one or two years—at most two years—which the medical schools assign to those subjects. This is my belief, too. And so I say, take more time. But not only for mastery of your sciences. A man educated merely in the sciences of Nature, a man whose mind has not been opened, elevated, and enlarged by art, letters, and philosophy is a good deal of a Philistine. Liberal culture, like virtue, or religion, has its own intrinsic value. I shall not, however, stop to argue a thesis so manifest and so universally accepted. But I do desire to ask you if it is not true that a liberally educated man—a man whose powers and faculties have been disciplined, chastened, strengthened, and enlarged by letters, philosophy, and science—will not have a great advantage over the man of mere professional education even in the practice of his profession. He will have deeper insight, a greater comprehensiveness and versatility of intellect, a surer faculty of seeing things as they are and disentangling what is irrelevant and sophistical. This is what gives such profound truth to the saying of Jowett—the greatest educator of his generation—that to be a good engineer a man must be more than an engineer. And I find this same sentiment among the most distinguished physicians. You will find it expressed in Sir Morrell MacKenzie's essay on "The Relation of General Culture to Professional Success" And the celebrated Dr. Stokes, a generation ago, laid it down as a maxim that "We must trust far less to the special than to the general training of the mind." My own observations and reflections as an educator and a student of the human mind have led me to the same conclusion. Generally stated, my view is that the mind in order to know anything well must know far more than that thing—and the more extensive and intensive that "more" is, the better will the narrower specialty be understood and the readier will be the power of applying it. I have had striking confirmations of this principle in my intercourse with professional men. The leader of the American bar once told me that he owed his success in his profession to his college work in philosophy and the languages. The Nestor of American journalism assured me that whatever reputation he had achieved was due to his college training in classics and mathematics. And as I scan the biographies of the men who were eminent in the medical profession, I find that Harvey devoted five years to academical studies at Cambridge before he went to Padua to study anatomy; that Richard Bright studied philosophy under Dugald Stewart; that Sir James Y. Simpson was a student both of mathematics and ethics; and that Sir Joseph Lister took his A. B. at the University of London five years before he came up for his medical degree. To every prospective medical student I should like to say, Go thou and do likewise.

Undoubtedly this will make large demands upon the time of the student. Now it is not necessary that any young man should be a physician or surgeon; but if he decides to become one he should aim at nothing less than the first rank. Here, too, as at other points, Cornell University will give him aid and encouragement. In our Academic Department the student has absolute liberty in the choice of studies. So that if our future medical student enters that course he may, without neglecting letters or philosophy, master thoroughly his anatomy, physiology, histology, chemistry, physics, and botany, and at the end of four years receive his A.B. degree. There then would remain of the medical curriculum only the professional branches, which he could compass in the next two years in New York City. Thus, thanks to our elective system, he would win both the A.B. and M.D. degrees in six years—though each separately requires four years.

It will then be to the advantage not only of the University and its Medical College, but of the student and the general public, if the relationship between the Academic and Medical Departments become closer and more constant. I hope to see it the rule for our students of medicine to spend four years at Ithaca in the study of letters, philosophy, and science—the latter covering in a thorough way the theoretical parts of the medical curriculum—and then two years here for instruction in the practical part of the curriculum, for which this great city offers unsurpassed opportunities. This Faculty of Medicine would, I am sure, rejoice if this arrangement were the general and normal one. Our Founder would rejoice, for his aim is not to attract numbers, but to offer superior training for those, be they few or many, capable of receiving it. And if along with this ideal of high intellectual standards we entertain a just conception of the inherent nobility of the medical profession—whose aim now and always is to discover and use the laws of Nature for the benefit of mankind—we shall, in this new college which we now open, erect a temple whose foundations are truth and whose superstructure is charity and philanthropy. And upon it and all its members I reverently invoke the blessing of God, who is at once both Truth and Love.

WAR ARTICLE.

SANITARY DIARY OF THE PORTO-RICAN CAMPAIGN.

By JOHN McG. WOODBURY, M.D.
MAJOR AND CHIEF SURGEON, U. S. V.; SANITARY INSPECTOR AT PONCE, PORTO RICO.

THE following order, which was issued by Major-General Miles, just previous to the landing of the army in Porto Rico, shows the admirable wisdom and forethought to which his command owes its good health, and the avoidance of a repetition of the sad scenes at Siboney and Santiago, in Cuba.

Headquarters of the Army,
On Board U. S. S. "Yale," en route
for Porto Rico, July 23, 1898.

General Field Order No. 2.

PAR. I. In order to prevent, as far as possible, the introduction of yellow fever into the command now about to land on the island of Porto Rico, the following will be strictly observed:

1. All persons connected with the army are forbidden to enter any building whatever on the Island without special authority from these headquarters, and all buildings and rural districts that may be suspected of harboring the germs of that disease should be destroyed by fire or thoroughly disinfected. No natives, except authorized guides, and those having permission from these headquarters will be allowed to enter camp.

2. As woven goods, particularly those of woolen fabrics, are special carriers of disease, the purchase or acceptance of articles of this kind from stores or inhabitants of the Island is strictly forbidden, and any such property found within the lines will be at once destroyed and the holder subjected to punishment. Commanders of regiments and of battalions will prepare their camp-grounds with great care and maintain a rigid police in them. Under no circumstances will they camp on ground that has previously been occupied by troops or by collective bodies of inhabitants. They will require medical officers to make frequent inspections of the commands to which they belong and all suspicious cases of fever will be isolated immediately, and the fact of occurrence reported to these headquarters.

3. Canteens should be filled daily with tea or coffee, and these beverages used habitually instead of water, unless that has been previously boiled.

II. An officer, to be designated hereafter, will take command of the base of supplies, and is hereby authorized to indicate the sites to be occupied by the various supply departments and hospitals, and will enforce the regulations governing the health of the attaches of these departments, and all persons who may visit them on business, or otherwise.

III. A sanitary inspector will be appointed from these headquarters, whose duty it will be to examine all vessels and persons arriving at our base from other ports or places, and who will prepare sanitary regulations for the government of all transportations and of persons arriving and departing from the station by land. He is hereby authorized to quarantine all suspicious persons and means of transportation and to disinfect their belongings either by fire, or by such other means as may be deemed necessary.

IV. All persons, whether soldiers or civilians, who may be captured, will be taken to a camp of detention, to be located at a point isolated from the general camp and no communication allowed with them, except through persons specially designated by the officer in charge.

V. Under no circumstances will a regular foraging upon the country be allowed. Whenever it may be necessary to procure supplies of grain, provisions, horses, etc., the foraging party will be in command of an officer, who will treat all well-disposed inhabitants with careful consideration, and will in every case pay cash or give a properly signed receipt in duplicate in lieu thereof.

V. This order will be read and re-read until each commanding officer is satisfied that every person of his command is thoroughly familiar with its provisions.

By command of Major-General Miles.

J. O. GILMORE,
Brigadier-General, U. S. V.

I was appointed by General Miles to the Sanitary Inspectorship of the Island in accordance with the terms of this order. Immediately afterward I inspected the jail at Ponce. This is the common "calaboso" into which the felons great and small are indiscriminately crammed by the Spanish authorities, and is situated just in the rear of the City Hall. It is built of brick covered with stucco on the outside. Its plan is that of a parallelogram, twice as long as broad, enclosing a central court, the space from the inner wall, or walk of the court, to the outer wall being roofed in flat tile upon which sentries were constantly posted. The inside was arranged like a cloister around the four sides of the parallelogram. It was dark and as profoundly filthy as only a Spanish prison can be, and the odors were beyond description. The lavatories and sinks were in an unbelievable condition. The criminals, being herded together like animals, were filthy to a horrible degree and were covered with vermin. Many were afflicted with loathsome skin diseases.

The caserne or barracks which had been so hastily abandoned by the Spanish troops of the 25th Battalion of infantry were in an equally filthy condition, the drain being choked and the place alive with vermin. This is a large, finely constructed building, having quarters for 500 men and officers. Well and solidly built, with no wood but the doors, it was easily disinfected and cleaned. The Spanish military hospital, which is a fine building one year old, having four wards and accommodations for about 400 men, is located upon a high hill at the outskirts of the town. It is thoroughly drained, and we were indeed fortunate to find such a hospital ready to hand. But its drain was choked, and the two wards which were then occupied by Spanish sick were filthy. The lunatic asylum was but a little, cramped road-section house, built for the shelter of the peons working on the highway between Ponce and San Juan. It was as filthy as all the other public buildings, and its wretched inmates covered with vermin, were cared for by two male

attendants. This den, as explained to me, was but a reception hospital for patients, later on to be transferred to the central asylum at San Juan.

The camping-ground of our troops was on a plain north and east of Ponce, an old sugar-cane field, the soil a black alluvial deposit of volcanic detritus washed from the hills by the Rio Portugese.

Finding the city to be without any health organization, I summoned, through the *Alcalde*, R. Ulpiano Colom, a clever and most able man and a pronounced American sympathizer, all the medical practitioners of the district of Ponce to meet me and organize a board of health. They chose for their representative Dr. Moret, who graduated at the Bellevue Hospital Medical College, New York, in 1880. He, with his Honor, the *Alcalde* of Ponce, and the syndic, ex-officio, now compose the Board of Health of Ponce. The board has charge of all matters of municipal sanitation and the Street Cleaning Department, as well as condition of water-supply. The three members composing the board then chose four inspectors, one for each of the wards of the town. These were *medicos titulares*, or "doctors of the poor." The rules for their direction, translated into English, are as follows:

I.—The Inspector will examine each day the district to which he is appointed.

II.—He will report each day its general sanitary condition:

a. Condition of streets, their cleanliness, presence of refuse, garbage, or waste paper, etc.

b. All odors from vaults, privies, cesspools, etc.

III.—The sanitary condition of the factories.

IV.—The condition of the slaughter-houses, whether clean, odorless, and the method of the destruction of its refuse.

V.—The condition of the market, whether clean or filthy, any negligence on the part of the vendors, and the cleanliness of their respective stalls and tables.

VI.—The condition of the public schools, their water-closets and floors, and general sanitary condition.

VII.—Where suspected, from odors, that the privy-vaults are in bad condition they shall be inspected and the result of the inspection communicated at once to the Board of Health.

VIII.—The condition of the yards and stables connected with the houses in which horses, cattle, or other animals are kept.

IX.—The livery-stables, their condition, the disposal of their manure. The diseases of horses that are contagious.

X.—While all physicians are required at once to report to the Board of Health any contagious diseases, as by list (diphtheria, smallpox, yellow fever, typhus, scarlet fever, measles, and chicken-pox), the inspector is required to examine any such cases in which any doubt may exist as to diagnosis, and his judgment is final.

XI.—The medicos titulares shall immediately inform the board of any of the above disorders occurring among the poor in their charge. The inspector will examine the case and order it to the proper hospital, or quarantine the sick in their own house if in his judgment it be proper.

A number of copies of these rules were given to each of the medical men in Ponce, and the substance enforced as accurately as possible. The immediate questions pressed upon the members of the board, with whom I meet three times a week, were:

1. *Street Cleaning*.—This was immediately began, and in some districts has been carried on quite well and will be pushed.

2. *The Public Water-Supply*.—This is derived from the Rio Portuguese. The intake of the aqueduct is about three miles from the city, at a pond formed by a dam about six feet high across the river. This pond has been almost filled by silt and the deposits caused by the wash of the heavy rains. It has been arranged to have the pond cleaned thoroughly and scraped out and another heavy galvanized iron strainer placed over the intake. The members of the 1st Regiment U. S. Volunteer Engineers are arranging detailed plans for a filter-bed to be constructed at the city terminus of the aqueduct before it branches or empties into the small reservoir that is built at its city end. This will be a great improvement, as in times of heavy rain the water is greatly loaded with earth.

The valley of the Rio Portuguese, which I have carefully inspected, is clean and only occupied by infrequent coffee estates, the drainage from which is inconsiderable. The purchase of a filtration-plant was recommended by the Health Board, but the emptiness of the city treasury preventing, the Engineers were applied to, with marked success.

3. *The Disposition of the Dead*.—The method at present in use must be immediately changed. The cemetery is in the town and is surrounded by dwellings. The dead of the wealthier classes are put into catacombs built above the surface of the ground and securely bricked up, and the entire tomb covered with a stucco surface. The public dead are buried in tiers in the ground, one on top of the other, and in a few years the ground is dug up again, the bones remaining being thrown out and the same space used repeatedly. This has been stopped, a proper site chosen for a new cemetery, the purchase money voted by the town council, and a proper place for the decent disposition of the dead arranged. The small cemetery at the Port of Ponce, used for the burial of our soldiers who have died in hospitals, is totally improper and insufficient. Some action should be taken by Congress at once to provide a suitable place for their interment. I have heartily endorsed the idea of the disposition of all dead by cremation, and am certain that in this extreme climate, and in the circumstance of so much sickness as accompanies the army of occupation, that I am right, and that cremation is the proper method for the disposition of the dead. This, however, meets with no approval from church, chaplains, or the sentimentalists. The climate renders the keeping of a body a danger and an offense, and all I have been able to enforce, so far, has been to hasten the interment.

What has been accomplished, so far, is the thorough disinfection with bichlorid of mercury and sulphur fumigation of the city prison, its cleansing by scrubbing and by whitewash, clearing of its drains, rebuilding of its sinks and latrines, and enforcement of cleanliness among its inmates. The floors and sleeping platforms are being rebuilt at present. The Spanish military hospital has been cleaned and fumigated twice, drains taken up and cleaned, and sinks and latrines rebuilt. This hospital has been the general military hospital at Ponce, and now, with its tentage extensions, is the central hospital for collecting the patients from surrounding commands. The having at hand such a building, and the rapid and efficient work of Surgeon-Major Daily in cleansing it under great pressure of necessity, has proved a great aid to the medical arm of the service.

The caserne, or barracks, which is now fit for use and is occupied by a detachment of the 19th Infantry, has been most thoroughly fumigated, scrubbed, and cleaned; the sinks have been rebuilt, drains cleaned, and the place rendered suitable for occupation. This will provide a most adequate shelter for the 400 troops necessary to garrison Ponce permanently, makes them comfortable and dry, and gives them the best hygienic surroundings. All captured woolen uniforms and clothing have been burned. Some bales of new cotton clothing having been boiled for an hour might be used, as they are sterile. No troops are quartered in buildings save the provost-guard on the roof of the jail, those in the caserne, and the provost-guard at Pleya, the port of Ponce, which is quartered in a lumber yard and sheltered by a shed. I have inspected the sheds which the Government has used at Pleya as storehouses, and find them after their policing clean and fit for use.

The camps of our troops are dry and well drained, and I could only earnestly recommend the enforcement of the stringent order against the men drinking the water and filling their canteens from the streams where the inhabitants were washing their clothes. Under the able administration of Colonel Greenleaf there has been an accurate uniform attempt on the Island to arrange beforehand for any sickness. With such a careful hand at the helm there is little probability that a breakdown and overcrowding of hospital service will occur. Of course, there are worthless men everywhere and some of them disgrace our profession, but all I have met here on my daily round of inspection are hard at it trying honestly to carry out Chief-Surgeon Greenleaf's orders, and, fortunately, we have been so supplied that there is no want either of cots, medicine, or food. In the general hospital good native cooks have been hired and are at work. They seem to do well. Of course, the general hospital is not to be compared with any of our best at home, but it is clean, the food is plenty and good, and it is most efficiently managed.

THERAPEUTIC NOTES.

Anytin and Anytol.—LOEFFLER (*Therap Monatshefte*, July, 1898) describes the properties and uses of anytin, a new chemical compound containing carbonic acid, oxygen, and hydrogen, 16.5 per cent. of sulphur, and 4.5 per cent. of ammonia. It is a brownish-black, very hygroscopic powder, making a clear solution in water in all proportions. It is precipitated from its solution in water by solutions of an alkali, similarly to the formation of soaps. Its chief value lies in its power to make soluble in water substances which are ordinarily not so. Hence, many substances which have had as disinfectants only a limited value, can be used in much stronger solutions than heretofore, and so made more effective. Anytin itself is not a strong disinfectant. It has not been found to contain living germs, but spores of different kinds may remain in it without losing their vitality.

A one-per-cent creasol-anytol solution has the disinfectant worth of a three-per-cent. carbolic one. All spores were destroyed in thirty-six hours in a ten-per-cent. creasol-anytol solution, whereas a five-per-cent. carbolic solution requires sometimes as many as sixty hours to destroy anthrax bacilli. For the preparation of catgut he recommended that the gut be allowed to remain in a ten-per-cent. solution for thirty-six or forty-eight hours and then preserved in alcohol. In this manner the gut was not injured in the least, although a week's soaking materially lessened its strength. A three-per-cent. solution has very little effect upon the skin, and a ten-per-cent. solution none at all. Tampons saturated with a one-per-cent. or two-per-cent. solution, and introduced into the nostrils and kept there for three or four hours, sufficed to limit the formation of crusts, and removed almost entirely the disagreeable odor of ozena. A three-per-cent. solution is recommended in the local treatment of diphtheria.

Quick Cure of Erysipelas.—SCHULTZE (*Therap. Monatshefte*, July, 1898) saw an erysipelas develop in the skin of the right hand of a patient who was recovering from a cellulitis of the member. The local and general characteristics of erysipelas were all present, and the trouble was spreading rapidly. Owing to the favorable situation of the trouble an old method of treatment was revived, an attempt being made to limit the further spread of the germs by the injection of a three-per-cent. carbolic solution into the skin all around the arm. Care was taken to make the injections solely in the substance of the skin, according to the infiltrating plan recommended by Schleich. Inside of three hours the patient felt decidedly better, and there was a fall of two degrees in his fever. On the next day the pain and fever had entirely disappeared, and the swelling subsided the day following.

To Relieve the Pain of Burns.—

℞ Cocain hydrochlorat. . . . gr. v
Camphoræ carbolat. } aa . . ʒss.
Ol. olivæ }

M. Sig. External use.

The cocain is to be thoroughly dissolved in the carbolate of camphor before adding the olive oil. Intensely painful burns are said to be quickly relieved by the application of this mixture.

The Medical News.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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Address the Editor: J. RIDDLE GOFFE, M.D.,
No. 111 Fifth Avenue (corner of 18th St.), New York.

Subscription Price, including postage in U. S. and Canada.

Per Annum in Advance	$4.00
Single Copies	.10
With The American Journal of the Medical Sciences, Per Annum	7.50

Subscriptions may begin at any date. The safest mode of remittance is by bank check or postal money order, drawn to the order of the undersigned. When neither is accessible, remittances may be made, at the risk of the publishers, by forwarding in *registered* letters.

LEA BROTHERS & CO.,
No. 111 Fifth Avenue (corner of 18th St.), New York,
and Nos. 706, 708 & 710 Sansom St., Philadelphia.

SATURDAY, OCTOBER 8, 1898.

WOUNDS OF THE HEART.

The fact that the late Empress of Austria was able to walk some distance and go on board a steamer after receiving a fatal wound of the heart (for the necropsy showed that the heart had been completely penetrated) has been the occasion of no little surprise. The *Lancet* points out the fact that there are in medical literature records of survival of considerable duration after small heart wounds.

According to the *Supplemento et Polyclinico*, August 20th, and quoted by the *Lancet*, a remarkable case of penetrating wound of the heart occurred this past summer at Rome, Italy. On July 9, 1898, Dr. Parlavecchio reported to a medical society at Rome a case of punctured wound of the heart in which he had operated eight hours after the infliction of the wound, and saved the patient's life. The patient, a man twenty years of age, two days previously was stabbed with a knife in the fifth intercostal space, in a vertical line midway between the border of the sternum and the left nipple. He afterward walked to the hospital, a distance of 218 yards. Five hours later he was found to be suffering from pneumothorax on the left side, with extensive effusion, probably of blood, into the pleural cavity; the area of cardiac dulness was increased; at the apex the heart sounds were confused, and at the base they seemed distant; the pulse was irregular, intermittent, and small. Dr. Parlavecchio suspected a wound of the heart, or at least a wound of the pericardium, and proceeded to operate as soon as possible, although delayed in his preparations till eight hours after the injury. Chloroform was given and a free incision made in the fifth intercostal space, through which much blood escaped on opening into the pleura. Upon resection of the fifth rib a wound admitting two fingers was found in the pericardium. This was enlarged to expose the heart, in which a V-shaped wound, one and one-half inches long, was discovered near the apex, penetrating obliquely the left ventricle, and intermittently discharging blood. Four interrupted deep silk sutures were applied, which completely controlled the hemorrhage. The pericardial and intercostal wounds were then sutured, the entire procedure lasting forty minutes. The V-shape of the wound was probably due to the movement of the heart during the infliction of the wound, and the survival of the patient during the eight hours preceding the operation is explained by the occlusion of the heart wound by a clot. No clot was found there, but it may have been displaced by the struggles of the patient during anesthesia. The subsequent history of the case was uneventful, the patient insisting on leaving the hospital August 14th, five days after the operation.

A PLEA FOR JEJUNOSTOMY.

The relative unfamiliarity of even widely experienced surgeons with this operation, is sufficient excuse for discussing it from the theoretic standpoint of medical needs, rather than surgical attainments. The establishment of a more or less permanent fistula into the alimentary canal is justified by one of two necessities: the introduction of food and the outlet of feces. The most rudimentary physiologic study makes it plain that the former purpose cannot be satisfactorily fulfilled by an opening lower than the upper part of the jejunum; while the latter purpose would be defeated by the abstraction of needed nutriment and water if the opening were higher than the lower part of the ileum, although

circumstances may demand the establishment of an artificial anus at a higher point, for purely mechanical ends, notably the relief of intra-intestinal tension. Because of anatomic difficulties, fistulæ are not applicable to the esophagus and scarcely to the duodenum. Even if a fistula can be made into the duodenum, physiologic reasons contraindicate such an operation, from the propinquity of the pylorus and of the ducts of the two large tributaries to the intestine, namely the liver and pancreas. In a sense, this is an anatomic objection but it is so on account of physiologic processes, not on account of operative difficulties. Thus, an alimentary fistula affords a choice only between the stomach and the jejunum.

The real value of this operation has been overlooked. We can get a clue to its proper employment by considering: (1) the successful case of Hahn's in which physiologic rest of the stomach afforded by the jejunal fistula allowed the esophagus and stomach to return to a practically normal condition after two weeks; (2) the experience of various surgeons in cases of intestinal tuberculosis treated by entero-enterostomosis, and (3) the well-known postponement of death from ineradicable rectal cancer, by the establishment of an artificial anus. Senn and others have reported almost miraculous cures of intestinal tuberculosis by short-circuiting the affected part and allowing it physiologic rest. The withdrawal of the irritation of feces from a rectal cancer has often deluded the patient into a belief that the growth had become quiescent, and life has been prolonged just in proportion to the delay of the growth of the malignant focus. Why is it that it has never been seriously considered that the withdrawal of irritation from a gastric cancer is just as good treatment as the same principle applied to other cancers at an ineradicable stage?

Gastrostomy is a perfectly proper operation for cicatricial or perhaps syphilitic stenosis of the esophagus, and should, doubtless, be preferred to jejunostomy in all such cases in which the condition of the stomach allows a choice. But when the obstruction of the cardia is malignant, all that can be said in favor of this operation is that it prevents the patient from starving to death immediately. In the first place, it is contrary to the principle of side-tracking an inoperable lesion to allow a cancer of the cardia to be irritated by peristalsis, hydrochloric acidity, the impact of food-particles and the various organic irritants that are produced even in the preliminary stage of the most perfect digestion. Secondly, there is certainly not more than one chance in five that a stomach with a cancer at the cardia will be able to perform proper digestion or even prevent improper fermentation. There is a very prevalent idea that it is possible to apply one disease-name to almost every diseased stomach, but, as a matter of fact, it is very rare to find an organ which has only one disease. With cancer of the cardia we should rather expect deficiency of secretion, both of hydrochloric acid and later of the ferments, so that malfermentation would result; in many instances, this secretory disturbance would be not merely functional but the mark of a gastritis; dilatation of the stomach of moderate degree is quite common with stenosis of the cardia. I have seen —and certainly every surgeon and pathologist must have had much greater experience in the same line— the fistula itself involved in an extension of the malignant disease of the cardia. Thirdly, a gastric fistula in cases of cancer of the cardia not only allows irritation of the growth and faulty digestion but it is responsible for introducing toxic material into the intestine and thereby not only depressing the system but directly interfering with intestinal digestion. The toxic material has two sources, the cancer itself and the improperly digested food. The stomach is not a particularly valuable organ but, like some persons, owes its reputation for importance to its capacity of making trouble when it is disturbed. Not only the recent observation of patients from whom the entire stomach has been removed but similar experiments on animals and the study of cases of gastric failure in which motility remains good, have demonstrated that the bulk of the digestive processes falls to the intestine and its tributaries. If the stomach is not normal, it is far better to insert the food directly into the bowel than to pass it through a cavity that can only add to its irritating qualities. Thus, jejunostomy should be the operation of choice in all cases of malignant disease of the cardia.

When cancer of the pylorus has progressed beyond the possibility of a radical operation, gastro-enterostomy is almost universally conceded to be the desideratum. But the same arguments that have

been adduced against allowing food to enter the stomach when the cardia is affected with malignancy, apply *a fortiori* to cases of pyloric cancer. Especially is it to be noted that while, in cancer of the cardia, there is a general tendency to achlorhydria, atonic dilatation and catarrh, a pyloric growth of sufficient importance to call attention to itself must, almost necessarily, have produced stagnation, dilatation, and irritative catarrh of the stomach. To pass food through such a cavity when a clean, disease-free entry into the jejunum can be effected is contrary to all medical principles. Thus, it seems that gastrostomy and gastro-enterostomy should be superseded by jejunostomy in all malignant cases, unless some purely mechanical obstacle prevents a choice.

At this point, the student of internal medicine should leave the subject to the surgeon, it being the province of the latter to work out the operative details. But, as the operation is unfamiliar, even to many competent surgeons, and as certain practical operative procedures are necessitated by essentially physiologic considerations, I may be pardoned for considering the operation somewhat in detail. The first operations of jejunostomy consisted in making a simple lateral enterostomosis. These, however, allowed considerable leakage of food and great discomfort was produced by excoriation, or rather digestion, of the skin. In general any animal secretion causes more or less dermal irritation, but the digestive fistulæ are apt to be particularly troublesome on account of their bulk and digestive properties. The skin, however, is protected by its oily secretion, and pepsin is nearly inert as soon as the hydrochloric acid of the gastric juice is neutralized or organically combined. In most cases for which gastrostomy is performed, hydrochloric acid is reduced to a minimum. On the other hand, the jejunal contents consist largely of pancreatic juice, which attacks and splits fatty materials and which acts energetically on even raw proteids, in anything but a highly acid medium. Thus, the leakage from a jejunal fistula is almost caustic in its effects on the skin.

To obviate this difficulty, Maydl cut the intestine, implanted the distal end into the abdominal wound and made an end-to-side anastomosis between the proximal end and the efferent bowel. Albert made a side-to-side anastomosis and brought the kinked portion of the jejunum into the abdominal wound, making a second side-to-side anastomosis and narrowing the gut to form a fistulous entry. Karewski's modification seems the best and simplest of all. Briefly described, it is the same as Witzel's operation for gastrostomy, substituting the jejunum for the stomach and using, by preference, a silver cannula. The after-care of the case demands frequent feeding, with comparatively small quantities of nutriment and the physician should be consulted so as to insure a proper amount and proportion of the various kinds of food. All that the general practitioner can ask of the surgeon is that the latter operate on the jejunum instead of the stomach in the class of cases mentioned, and that the operation be such as to leave a water-tight fistula.

A. L. Benedict, M.D.

ECHOES AND NEWS.

Health of Troops at Honolulu.—Major-General Merriam reported to the War Department September 11th that he had inspected the kitchens and camps at Honolulu and found them in a sanitary condition and the health of all the troops very good.

Appointments at Bellevue Hospital.—The following appointments have been made to the university staff of this institution: Dr. Henry C. Coe, gynecologist; Dr. Geo. D. Stewart, surgeon; Dr. Egbert Le Fevre, physician; Dr. L. Bolton Bangs, genito-urinary surgeon; Dr. B. Farquhar Curtis, surgeon.

Dr. Pepper's Successor.—The faculty of medicine of the University of Pennsylvania, at a recent meeting recommended that Dr. James Tyson of Philadelphia be given full and general direction of the branch of Theory and Practice of Medicine, and that Drs. John H. Musser, Alfred Stengel, M. Howard Fussell, and Frederick A. Packard be appointed to deliver, under Dr. Tyson's supervision, the didactic lectures pertaining to the subject.

No Rest for the Ashes of Columbus.—The often-disturbed remains of Columbus are to make at least one more move. He was buried at Valladolid, Spain, but was soon after transferred to Seville. Thirty years later his remains were removed to Santo Domingo. When that island was abandoned to the French, these sacred relics were taken to Havana, Cuba, and now they are going back again to the country of his adoption, which he honored so highly.

New President of the Wistar Institute of Philadelphia.—Provost Charles C. Harrison, of the University of Pennsylvania, has been elected to the Presidency of the Wistar Institute of Anatomy and Biology, made vacant by

the death of Dr. William Pepper. Although the Institute is not a part of the University of Pennsylvania, it is under the control of its trustees. Its funds are held under a separate charter, and it is governed by a board of nine managers, six of whom are elected by the university trustees.

New York State Medical Association.—The chairman of the Committee of Arrangements of this association reports, in connection with the meeting to be held in New York City, October 18th, 19th and 20th, that the usual reduction in railroad fares to one and one-third fare for the round trip has been secured to the members of the association and their families, provided one hundred persons avail themselves of the privilege. The usual certificate and endorsement attending such an arrangement will be insisted upon. The committee has also completed arrangements for a banquet on the evening of October 19th. More than one hundred have signified their intention of being present.

Metallic Sinks for the Army.—One result of the study of camp conditions is the recommendation of a metallic-lined sink, sixteen feet in length, two feet wide, and eighteen inches deep. A water-pipe is connected at one end and a waste-pipe at the other. The trough is to be filled daily with water in which lime is to be placed. The trough is cleaned by flushing it through the waste-pipe into a covered sink or into movable receptacles which can be dumped at properly selected places. It is recommended also that similar movable sinks be constructed and placed on wagons. The whole apparatus can then be moved daily and the contents of the trough deposited at the appointed place. These wagons can accompany an army on the march.

Surgical Instruction at the University of Pennsylvania.—On account of the illness of Dr. John Ashhurst, the general supervision of surgical instruction has been given to Dr. J. W. White, formerly Professor of Clinical Surgery, and didactic lectures in this branch will be given by several of the younger members of the teaching staff. Dr. Henry R. Wharton, Demonstrator of Surgery, and Dr. Alfred C. Wood, Instructor in Clinical Surgery, are being considered as probable appointees. About two months ago Dr. Ashhurst was stricken with apoplexy at his home in Overbrook. He survived the shock, and his intellect is now clear and his judgment good. He would be able to carry on his work but for the attending paralysis.

Sanitary Conditions at Manila.—An officer on the staff of General Greene, writing August 9, 1898, says: "The weather has been very bad for the past few days; it has rained constantly, the ground is full of moisture, and everything is damp, wet, and nasty; the humidity is very great all the time. We are very comfortably situated, having a house about twenty feet square, which is raised from the ground about two feet. The men are fairly comfortable and are in shelter-tents raised above the ground from eighteen to thirty-six inches. They make a bed of bamboo and pitch the tent on top of it. The health of the men is excellent and their morale is very high. There are no mosquitoes here and not many bugs and we have seen no snakes as yet. The camp is about midway between Cavité Point and Manila."—*Army and Navy Journal.*

Medical Schools of New York City.—The College of Physicians and Surgeons and the University and Bellevue Medical School began their winter's sessions on Monday, October 3d. At the latter institution, Dr. Edward G. Janeway, dean of the faculty, addressed all the students in the large lecture-room. He outlined the courses for the year and said that the class of 1899 will be the last to be graduated in the three-year's course. After that the course will be four years. The class entering this year is the largest in the history of the college. The sessions will be conducted in the new building at Twenty-sixth street and First avenue. The Cornell University Medical College inaugurated its existence by public exercises held in the main amphitheater on Tuesday evening, October 4th. President Schurman of Cornell University made a formal address (see page 462). Dr. Wm. M. Polk, dean of the faculty, followed with some remarks in behalf of the faculty. After the public exercises an impromptu reception was held. The school opens with about five hundred students in attendance, most of them from out of the city.

Yellow Fever.—The United States Marine Hospital Service makes the following report concerning yellow fever, from July 20 to September 29, 1898:

Place.	Date.	Cases.	Deaths.
Louisiana:			
Baton Rouge	Sept. 25	1	—
Franklin	" 24	106	5
Harvey's Canal	" 24	6	—
Houma	" 22	1	—
Jefferson Parish	" 24	5	1
New Orleans	" 17	1	—
" "	" 20	2	—
" "	" 21	1	—
" "	" 24	2	—
" "	" 28	6	1
Wilson	" 26	12	—
Mississippi:			
Edwards	" 27	1	—
Jackson	" 27	9	2
Orwood	" 27	67	3
Oxford	" 27	13	4
Taylor	" 27	82	8
Waterford	" 9	1	—
Water Valley	" 28	1	—

Later advices indicate a steady advance of the disease in certain localities. October 2d, Jackson, Miss., reported twenty-two cases with three deaths to date. Detention camps are being established at various places.

The Mississippi Valley Medical Association.—The twenty-fourth annual meeting of this association will be held October 11, 12, 13, and 14, 1898, in the Capitol at Nashville, Tenn. Provisional program. First day, morning session, 10 o'clock: Address of welcome; reports of officers and committees; executive business; president's inaugural address. Papers: "The Relations of the Gyn-

ecologist and the Neurologist," W. H. Humiston, Cleveland, O.; discussion opened by C. H. Hughes, St. Louis, and Jos. Price, Philadelphia, Pa.; "Diagnostic and Therapeutic Uses of Tuberculin," Chas. W. Aitkin, Flemingsburg, Ky.; "Immunity," Chas. T. McClintock, Detroit, Mich.; "Hygiene *versus* Drugs in Pulmonary Tuberculosis," Charles L. Minor, Asheville, N. C.; "Some of the Factors That Predispose to Tuberculosis," L. P. Barbour, Tullahoma, Tenn.; "The Bicycle from the Medical Standpoint," I. N. Love, St. Louis, Mo.; "Therapeutic Value of Marmorek's Serum," W. L. Baum, Chicago, Ill.; "Tumors of the Parietal Lobe of the Cerebrum," T. A. Davis, Chicago, Ill.; "Unguentum Hydrargyri or Blue Ointment Administered by the Mouth," Albert Bernheim, Paducah, Ky. Afternoon session, 3 o'clock: "Wounds of the Lachrymal Apparatus: Report of Operation for Restoration of Canaliculi Obliterated by Traumatism," Geo. F. Keiper, Lafayette, Ind.; "Mastoiditis; When to Operate and How," Andrew Timberman, Columbus, O.; "Prophylaxis in Diseases of the Nose and Throat," J. Homer Coulter, Chicago, Ill.; "Three Anomalous Cases of Mastoid Disease," J. L. Minor, Memphis, Tenn.; "Report of Holocain as a Local Anesthetic in Ophthalmic Surgery," E. C. Ellett, Memphis, Tenn.; "Incarceration of the Iris Relieved by Eserin: Report of a Case," Frank Trester Smith, Chattanooga, Tenn.; "A Case of Bilateral Glioma of the Retina: Operation, Non-recurrence in Seventeen Years," A. G. Sinclair, Memphis, Tenn.; "Tonsillitis or Quinsy: Cause and Treatment," J. A. Stucky, Lexington, Ky.; "Remarks on Hydrophthalmus, with Report of Two Cases," James Moore Ball, St. Louis, Mo.; "Conservatism in Oral Surgery," Truman W. Brophy, Chicago, Ill.; "Neuralgias Due to Nasal Origin," Edward T. Dickerman, Chicago, Ill.; "Headache as a Symptom in Eye Disease," W. H. Wilder, Chicago, Ill. Second day, morning session, 9:30 o'clock: Address in medicine, Dr. James T. Whittaker, Cincinnati, O. Papers: "Complete Inspection of the Rectum by Means of Newer Mechanical Appliances," Thos. Chas. Martin, Cleveland, O.; "The Relationship between the Genito-Urinary Tract and Rectum: In Operations upon the Female, Which Should Receive Priority?" John L. Jelks, Memphis, Tenn.; "Rectal Fistula," J. R. Pennington, Chicago, Ill.; "The Surgical Management of Complex Progressive Ischiorectal Fistulæ," Leon Straus, St. Louis, Mo.; "Hydrotherapy in Stomach Diseases," Geo. D. Kahlo, Indianapolis, Ind.; "Phases of Toxemia from Disturbed Metabolism," Thos. Hunt Stucky, Louisville, Ky.; "The Vascular Dermatoneuroses," A. E. Brayton, Indianapolis, Ind.; "A Clinical Report of a Case of Abscess of the Liver," Edwin Frazer Wilson, Columbus, O.; "The Importance of Early Diagnosis in Surgical Cases," J. C. Morfit, St. Louis, Mo.; "Gonangiectomy and Orchidectomy for Hypertrophied Prostate in Old Men," George W. Johnson, Dunning, Ill. Afternoon session, 3 o'clock: "Why I Have Abandoned the General Practice of Vaginal Hysterectomy," B. Sherwood Dunn, Boston, Mass.; "Why I Do Vaginal Ablation in Pus Cases," Wm. R. Pryor, New York City; "A Consideration of the Limit to Operative Gynecology," Shelby C. Carson, Greensboro, Ala.; "The Limits of Operations for Cancer of the Uterus," L. S. McMurtry, Louisville, Ky.; "Cancer of the Uterus," Louis Frank, Louisville, Ky.; "Surgical Treatment of Pus in the Pelvis," Joseph Price, Philadelphia, Pa.; "Some Pathological Conditions of the Ovaries Causing Pain," G. W. Halley, Kansas City, Mo.; "A Case of Abdominal Hysterectomy with Stercoraceous Vomiting; Recovery," H. Hatch, Quincy, Ill.; "A Plea for Pelvic Cellulitis and Peritonitis," F. F. Bryan, Georgetown, Ky.; "The Diagnosis of Gonorrhea in Women," J. Rilus Eastman, Indianapolis, Ind.; "Care and Repair of the Female Perineum," E. L. Larkins, Terre Haute, Ind.; "Clinical Contribution to Ectopic Gestation," W. W. Taylor, Memphis, Tenn.; "Retrodisplacements of the Uterus and Their Treatment," A. Morgan Cartledge, Louisville, Ky. Evening, general reception, Maxwell House. Third day, morning session: Reports of committees; address in surgery, Dr. Geo. Ben Johnson, Richmond, Va. Papers: "Observations on Surgery of the Kidney," Charles A. L. Reed, Cincinnati, O.; "Direct Diagnosis of Diphtheria," William K. Jaques, Chicago, Ill.; "Diphtheria and Its Logical Treatment," A. M. Osness, Dayton, O.; "Suprapubic Cystotomy *versus* Perineal Section," James M. Parrott, Kingston, N. C.; "When Shall We Operate for Appendicitis," Edwin Walker, Evansville, Ind.; "Some Clinical Phases of Intestinal Obstruction," A. H. Cordier, Kansas City, Mo.; "Practical Side of the Treatment of Gunshot Wounds of the Abdomen," H. Horace Grant, Louisville, Ky.; "Surgical Treatment of Ophthalmic Goiter," Bayard Holmes, Chicago, Ill.; "Some Forms of Gangrene and Their Treatment," J. S. Nowlin, Shelbyville, Tenn.; "Subperiosteal Removal of Caries from the Pelvic Basin, with the Report of a Case," S. E. Milliken, Dallas, Texas; "Surgical Treatment of Infantile Paralysis," Alex C. Wiener, Chicago, Ill.; "Interesting Surgical Cases," M. Goltman, Memphis, Tenn. Afternoon session, 3 o'clock: "Neurasthenia and Its Treatment," H. C. Sharp, Jeffersonville, Ia.; "A Unique Case of Hernia: Operation," Spencer Graves, St. Louis, Mo.; "Some More about Drainage." Arch Dixon, Henderson, Ky.; "The Triple Operation for Pyloric Stenosis," N. Stone Scott, Cleveland, O.; "Report of a Case of Obstetrics with Complications," R. C. Pratt, McKenzie, Tenn.; "Pichi," H. W. Whitaker, Columbus, O.; "A Few Practical Points in the Treatment of Posterior Urethritis," A. Ravogli, Cincinnati, O.; "Varicocele," F. E. Kelly, LaMoille, Ill.; "Syphilis," John M. Batten, Pittsburg, Pa.; "Prevention of Venereal Disease," David Lieberthal, Chicago, Ill. Fourth day, morning session, 9:30 o'clock: Installation of officers-elect. Papers: "The Neurohypothesis of Rheumatoid Arthritis," Frank Parsons Norbury, Jacksonville, Ill.; "Intermingling and Change of Type in Diseases," W. Gaston McFadden, Shelbyville, Ind.; "Mercury: Its Action," William F. Barclay, Pittsburg, Pa.; "How Should We Treat Typhoid Fever?" T. Virgil Hubbard, Atlanta, Ga.; "The Arthritic Diathesis," R. A. Bate, Louisville, Ky.; "A Triology of Diseases: Acute Articular Rheumatism, Endocarditis, Chorea," Albert E. Sterne, Indianapolis,

Ind.; "Cardiac Murmurs," S. W. Fain, Chattanooga, Tenn.; "The Artificial Production of the Plasmodium Malariæ and the Rational Treatment for the Removal of Same in Malaria," L. H. Warner, Brooklyn, N. Y.; "Opium in the Treatment of Epilepsy," Frank C. Hoyt, Chicago, Ill.

CORRESPONDENCE.

IODOFORM IN PHTHISIS.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—In 1884 I began treating tuberculous patients with creosote, which was as much in evidence then as now, as a potent factor in the treatment of this scourge of mankind. I gave it in increasing doses so that 5, 10, and even 15 drops were taken three times a day. I was disappointed in every case in its efficacy. About 1893 I began to use strychnin, as recommended by Dr. Thomas Mays of Philadelphia, with apparently better results. It was administered hypodermatically to the physiological limit. Later I made a combination of strychnin, iron, and quinin. It then occurred to me to try to make, as nearly as possible, a local application to the diseased area of lung that thereby I might inhibit, if not destroy, the tubercle bacillus. Iodoform suggested itself as *the* drug for this important mission, iodoform being largely eliminated by the mucous membrane of the lung, so I added it to the above combination.

The results have been quite satisfactory in a rather large number of cases. No claim is made for it to cure advanced tubercular disease, nor to even mitigate *phthisis Florida*. But in incipient phthisis, when the patient begins to cough, accompanied by rapid pulse, pain in the chest, loss of appetite, and necessarily loss of flesh and strength, I have seen it act most advantageously.

I have never seen iodoform recommended in consumption, and in order that others may try it, and either prove or disprove the claim I make for its utility, is my chief object in writing this article. I began its use about eighteen months ago, and have given more than 2500 pills made from this formula:

℞ Strychnin sulphate . . . . gr. i
Reduced iron, Quinin sulphate, Iodoform aa . . . ʒij.

M. Ft. pil. No. XL. Sig. One pill after each meal.

Probably there is some incompatibility in this formula between quinin and iodoform, for the reason that not infrequently a patient will complain of pain in the stomach after taking a pill. I always speak of this to the patient and instruct him to discontinue taking the pills for a few days and then to begin again, being careful to keep the bowels well open. I have used the formula above mentioned with the quinin left out, and there was no complaint made of pain in the stomach, yet I doubt if with as good results as when the quinin was present. One drawback to the internal administration of iodoform is the disagreeable eructations which follow.

Yours truly,

E. L. DAWSON, M.D.

CAMDEN, ARKANSAS, September 25, 1898.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

OPENING OF THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF PENNSYLVANIA AND OF THE WOMEN'S MEDICAL COLLEGE—DR. TYSON CHOSEN AS DR. PEPPER'S SUCCESSOR—PERSONAL NOTES—COMPENSATION TO HOSPITALS BY THE GOVERNMENT—HAHNEMANN'S WOES — PATHOLOGICAL SOCIETY MEETING—FOOD ADULTERATIONS—HEALTH-BOARD STATISTICS.

PHILADELPHIA, October 5, 1898.

PROVOST CHARLES C. HARRISON formally opened the 1898-99 session of the Medical Department of the University of Pennsylvania in the chapel of the college building last Saturday, October 1st. He spoke briefly of the war, calling attention to the safety and immunity with which large bodies of men had been transported from the fever-infected locality of Santiago de Cuba to a camp near a large populous center, a feat which he considered greater than any victory obtained in battle. Dr. Pepper's death was alluded to, tribute being paid to his devotion to the welfare of the university and to his personal attainments. The provost promised on behalf of the trustees the speedy erection of new and enlarged laboratory buildings for the study of pathology, pharmacy, and physiology, plans of which were outlined in the MEDICAL NEWS last spring.

The opening exercises of the Women's Medical College were held Wednesday afternoon, September 29th, the regular college work commencing on Thursday.

Dr. Gertrude A. Walker, Clinical Professor of Ophthalmology, delivered the introductory address, in which she urged the adoption by medical colleges of a universal standard of requirements for admission equal to that required by the classical colleges of candidates for degrees. She also urged students to beware of the pitfalls of quackery, Christian science, faith cure, and mind cure, which owe their existence to the great prevalence of hysteria in our race and to the ills dependent thereon.

Dr. J. William White, Professor of Clinical Surgery at the university, will have charge of all instruction in this branch owing to the continued illness of Dr. John Ashhurst, Professor of Surgery. Didactic lectures will probably be given by Dr. Henry R. Wharton and Dr. Alfred C. Wood.

Dr. J. C. Da Costa, Jr., Assistant Surgeon Eighth Regiment, has returned home on sick leave.

Dr. Isaac C. Detweiler of Reading last week celebrated his sixty-eighth birthday and the tenth year in which he has donated all his fees to church and missionary work of various kinds, his latest contribution having been $225 with which to provide bibles for soldiers in Cuba and Porto Rico.

Five hospital ships with 800 soldiers on board are expected to arrive in Philadelphia this week and as most of the men will be taken care of by the various city hospitals there is some agitation over the question of compensation for this work by the government. While many, if not all the hospitals were led by patriotism and public spirit in offering their services, the constantly increasing amount of work has become a heavy tax upon the resources of

several and the statement that New York hospitals are receiving 93 cents a day for each soldier in their care has aroused a great deal of interest.

Secretary French of the National Relief Committee says there is no doubt as to the validity of a claim against the government for this work and while some few hospitals may refuse compensation there is to be a meeting next week for the purpose of deciding whether to accept remuneration and if so the rate per diem for each soldier.

Hahnemann Hospital physicians have been considerably stirred up over the alleged discrimination against this institution in the distribution of sick soldiers brought here by the various hospital-trains. Dr. Charles Mohr, a member of the Board of Trustees of the hospital, took occasion to bring this matter before the meeting of the State Homeopathic Society last week and stated that although the hospital had offered the use of twenty-five beds to the authorities when the first and second hospital-trains arrived but two soldiers were received. In reply the authorities having the distribution in charge say that every man on the trains was asked his preference and only two selected a homeopathic hospital.

Trouble has been brewing for the Hahnemann in another direction also and the State Homeopathic Society deemed it necessary to adopt resolutions expressing confidence "in the integrity and ability of the faculty of the Hahnemann College of Philadelphia and in the integrity and ability of our State Homeopathic examining board." The trouble, it is said, was caused by the refusal of the State Board to pass twenty-two graduates of this college last spring.

At a meeting of the Pathological Society held September 22d Dr. J. H. Jopson presented a chylous cyst of the abdomen which occurred in a woman aged fifty. The cyst, which contained about 200 cubic centimeters of chylous fluid, sprang from the retroperitoneal space between the kidneys, being firmly attached to the duodenum. Dr. H. L. Williamson presented a primary adenocarcinoma of the fundus uteri. The woman from whom it was removed by hysterectomy eighteen months previously, enjoys perfect health at present.

Dr. Henry Cattell presented a specimen from a case of gangrenous appendicitis. This occurred in a boy who had previously had appendicitis two or three times, the last attack which proved fatal having been induced by trauma.

Three of the crew of the British brig "Sunlight," from St. Kitts, were sent to the Marine Hospital last Friday, suffering from "logwood fever," a fourth having died last Wednesday.

Decisions were given this week in several of the civil and criminal prosecutions brought by the State Department of Agriculture against storekeepers for violation of the Pure-Food Law. A penalty of $100 was imposed on nine different counts against one dealer and several others paid penalties ranging from $100 to $500.

The total number of deaths reported at the health office for the week ending October 1st was 382, of which 113 occurred in children under five years of age. The number of new cases of contagious diseases was 300, reported as follows: Diphtheria, 128 cases with 30 deaths; scarlet fever, 15 cases with 1 death, and typhoid fever, 157 cases with 24 deaths.

OUR FOREIGN LETTER.

[From Our Special Correspondent.]

THE PROJECTED CHINESE UNIVERSITY AND SOME GERMAN ANTICIPATIONS — JAPANESE MEDICAL STUDENTS AT GERMAN UNIVERSITIES — AMERICAN MEDICAL STUDENTS ABROAD—THE QUESTION OF POST-GRADUATE MEDICAL INSTRUCTION IN AMERICA.

BERLIN, September 26, 1898.

THE recent official announcement of the Chinese Government to the Western Nations that she was about to formally open a Government University at Pekin, on the model of modern Western institutions, naturally attracted a great deal of attention in European university circles. China has learned from her little insular rival, Japan, the benefits of Western civilization. Her entrance into the educational field will be followed by an influx of Chinese into the European universities. If she imitates Japan in this as she has in most other things in her advance, the German universities will get the majority of her students who seek foreign parts. If the *number* of students who seek foreign instruction should bear any commensurate ratio to the comparative populations of the two countries then the Chinese students are apt to form an important factor in German university life in the early part of the next century after the savor of Western educational life shall have aroused some of the dormant appetite of the Celestials for modern culture.

At many of the German universities at present are to be found a select coterie of most intelligent, hard working students, some of them engaged in interesting original investigation, all of them doing solid work of the most important and fundamental character, who attract attention mainly by their retiring ways and thoroughly business-like attention to the matter in hand. They are the representatives at the university of the little Oriental island empire, that has attracted so much attention of late. Wherever an especially good course is being given, wherever particularly tempting opportunities for original work, or a special chance to follow closely the teaching of some maker of medicine presents itself, there Japanese students are to be found and usually in the immediate train of the master.

Kitasato's work with Professor Koch first attracted general attention and it was in bacteriology that the medical world first became familiar with the Japanese names. But now scarcely a volume of any important German periodical is without one or more contributions from Japanese medical men for the time being here in Germany, and some of them are the most striking articles of the volume. As a body, outside of the German students themselves, the Japanese constitute the most interesting feature of German university life, and one cannot fail to be struck with the evident purposiveness of their university work, and admire its results.

The system under which these results are attained is eminently worthy of consideration by those interested in

the development of medical education. After graduation in the Medical Department of the Japanese University, medical men who have distinguished themselves in their medical course as well as in the preparatory high school, are sent to Europe. Their preliminary education in the high school compares practically with that given in the German gymnasia, though less attention is given to Greek, so that they come to Europe with a breadth of mind and depth of culture well calculated to make them eminently receptive. They are sent to the German universities, exceptionally to others, at government expense, or at least with government aid.

These traveling scholarships are not hampered by too closely drawn relations. The special field of work is left to individual selection, and the place or places where it shall be pursued left to the student's choice, after he shall know enough of the medical situation in Europe to judge for himself. It is not expected that German methods will be mastered in a year or even two, at least three years being given to this post-graduate work, and sometimes five or more years. Japanese medical students are, as a rule, made readily welcome in German clinics and laboratories. There is beside the almost unconscious influence of the feeling of attraction for the quaint Oriental who has come such a distance for instruction, the knowledge that he is ready and willing to work, and that he will stay long enough to accomplish something and will not be interrupting his studies just when he has been trained to a point in observation where he might be able to prove his ability and enable his master to commend him with confidence.

Just the opposite state of affairs prevails to a great extent as regards American medical students and has made it, of recent years, more difficult for them than it used to be to get advanced work of a high order. Very few American medical students come to Europe for more than a year and those who do stay for two years have seldom contemplated so long a stay at the beginning and so their work has been arranged with the idea of departure after a year. As a rule, too, the American medical student who comes abroad has no definite idea as to what line of work he would especially care to take up, and has a number of other axes to grind. There is but a year abroad in his plans, yet he wishes to see London and perhaps Edinburgh for their literary and medical interest, he must see Paris and Rome for other reasons. His medical work he plans to do at Vienna or Berlin or both and usually he knows but very little German. Naturally not much really effective work is done, since there is no royal road and not even American dollars can pave a short cut, or American quickness and enterprise carry one quite to the Pierian spring of medical knowledge in a few short months.

At the end of the year scarcely more than the prestige of European study is gained, a smattering of German, sometimes of the most unsatisfactory character and a knowledge of German medical men's names and their faces that adds a passing interest to the perusal of German medical periodicals and literature. There is, of course, the broadening influence of travel, of association, and of contact even though but passingly with other methods and other ideas in medicine, that cannot fail to have its effect in after life, but compared to what might be accomplished by definite post-graduate work continued for two or three years, a minimum of good is done. Unless under exceptionally favorable circumstances it is only at the end of almost a year that the student is in a position to judge where and how he shall best secure what he wants.

Meantime, of course, there remains the interesting question as to when American universities and medical schools will seriously offer advanced post-graduate work, not only for their own, but for foreign medical students. In certain of the applied mechanical sciences Japanese students now go to some of the universities in the United States. In this matter the Chinese students will imitate them, I suppose, if our laws on the question permit it, unless our attitude toward the Chinese generally discourages them. The relations of China and Japan to Western countries generally are to be largely influenced in the future by the state of mind of educated men at home toward these countries. Opinions acquired during the plastic educational period in the midst of a people will remain, and the influence of German culture and the fact that the knowledge of the German language gives them their readiest view of European affairs through German spectacles, will always tend to draw the Orientals toward their old teachers the Germans in politics. In the present state of world politics, and the recent exhibition of German jealousy of the United States during the war, this is eminently undesirable. There is then a motive of patriotism in the matter that our recent entry into Oriental affairs makes extremely timely, and one cannot help but bewail the absence of effort in the matter.

Japanese feeling toward the United States as one learns it from the Japanese medical students here in Germany is of the most cordial character. There exists among the rising generation the sincerest admiration for the Western Republic whose rapid material advance and thoroughgoing, enterprising, business methods they would so gladly have their own rising country emulate. There is a sentiment in the matter then, that would draw these students to our shores for advanced medical work, if opportunities were but offered. With the advent of a new century, and the impulse that it should give to educational as well as other matters, it is not too much to hope that efforts in this direction will be made.

Recent expressions of German sentiment in our regard has made it even more desirable that Americans should find their post-graduate development at home, if possible. The inevitable entrance of the country into the world's politics makes it eminently to be desired that in educational development, as in everything else, there should be an independence that frees the country from any embarrassing foreign relations. The proper evolution of the patriotic idea is itself a function of this absolute independence in educational matters and constitutes an ideal to attain which unselfish effort some present sacrifices may well be made.

TRANSACTIONS OF FOREIGN SOCIETIES.

Paris.

HYDROCEPHALIC CHILD BORN IN AN UNUSUAL MANNER — SUPRAPUBIC SYSTOSTOMY FOR PROSTATIC ENLARGEMENT — NEW METHOD OF SUPRAPUBIC CYSTOTOMY — POSTERIOR COLPOTOMY FOR PELVIC ABSCESS—SUGAR AS A DIURETIC — PERFORATING ULCER OF THE STOMACH — ACTION OF THE GASTRIC JUICE UPON TOXINS — TRANSMISSION OF TOXINS FROM THE FETUS TO THE MOTHER — CHANGES IN THE ORGANS PRODUCED BY SEVENTY-TWO HOURS ON A BICYCLE—PROCEEDINGS OF THE CONGRESS FOR THE STUDY OF TUBERCULOSIS IN MAN AND ANIMALS

At the Academy of Medicine, July 26th, Narich reported the case of a woman, aged thirty-six, who was in labor with her second child for fifteen hours when he was called to see her. The body and four limbs were already born, and examination failed to show any membranous spaces in the base of the skull, which was the only portion accessible to the finger. Attempts to apply the cephalotribe failed. Incision of the vertebral column allowed an enormous quantity of fluid to escape, and the hydrocephalic head was then born spontaneously. Examination of the fetal head showed a fracture in the occipital bone which made it possible for the contained fluid to escape in the manner described.

At the session of August 2d, Poncet spoke of the results of suprapubic cystostomy for prostatic enlargement, drawing conclusions from 114 operative cases. Eighty-seven of these patients recovered, 27 died. These cases may be divided into three groups, the first including 39 subjects without symptoms of infection or uremic poisoning. Only 2 of these died. The second group contained 29 patients with symptoms of uremic poisoning at the time of operation. Twelve of these died. In the third group were 46 cases with symptoms of chronic uremic poisoning. Thirteen of the patients in this group died. These figures show that the prognosis of suprapubic cystostomy depends upon the general condition; that is to say, upon the degree of uremic poisoning present at the time of operation. An early operation is therefore advisable. Some of the patients were striking illustrations of the advantage of this operation for prostatic enlargement. One of them who was operated upon at the age of 78, in the condition of coma, and with a temperature of 40.6° C. (105° F.), was alive and well 4½ years after the operation, being able to retain his urine for 3 or 4 hours during the day and longer at night. Another patient, 6 years after operation, was able to retain his water for from 3 to 5 hours, and then passed it in a stream through the hypogastric wound to the distance of 16 inches.

Suarez de Mendoza described at the session of August 23d a new method of incising the bladder above the pubes. The method commonly employed by dilating the rectum with a rubber bag is often the cause of temporary incontinence of feces and sometimes of rupture of the rectum. On the other hand, owing to inflammation, the distention is sometimes insufficient to accomplish the purpose of lifting the bladder out of the pelvis. To avoid these disadvantages the following method is recommended: The patient is placed in Trendelenburg's position, when a catheter passed into the empty bladder may be felt above the pubes below the reflexion of the peritoneum. It is cut down upon and serves as a guide for the passage of a thread before the bladder is opened. The catheter may also be utilized to irrigate the bladder immediately before the operation.

At the Surgical Society, July 20th, Richelot discussed the incision of the posterior cul-de-sac of the vagina for pelvic abscess, a method recently warmly advocated by Monod. While agreeing with the latter surgeon as to the advantages of this operation in suppuration of the broad ligament, or any abscess in Douglas' pouch not accompanied by lesions of the tubes or ovaries, he criticized in some respects Monod's optimistic views. It is difficult to determine whether the adnexa are diseased or not, so that in many cases an operation of this character will be of merely temporary benefit, and the patient will be left with a permanent fistula or, if this closes she may be subjected to the further devolopment of abscesses. In chronic suppurations, therefore, the incision of the vagina should only be performed to give immediate relief.

At the Medical Society of Hospitals, July 22d, Achard mentioned that polyuria often follows the injection into the tissues of a comparatively small quantity of sugar. This result may also be obtained by the ingestion of various sugars, but not so easily nor so surely. An appreciable effect has been produced by the injection of only 20 grains of saccharose; that is to say, about the fifth part of an ordinary lump of sugar. He proposes to use this remedy in cases of oliguria and has already done so in a few obstinate cases with good success.

Weil mentioned the fact that glycosuria of diabetes may disappear under the influence of biliary colic. He has twice observed this phenomenon. In both of these patients the sugar reappeared after the colicky pain ceased. Its disappearance resulted apparently from an inhibitory action upon the hepato-pancreatic centers. This action deserves to be classed with the reflex phenomena sometimes produced by crises of biliary lithiasis, which, as every one knows, are often accompanied by polyuria and glycosuria of a transient character.

At the session of July 29th, Galliard told of a woman, aged 36 years, who had for a year signs of ulcer of the stomach. Suddenly there came a feeling of intense heat in the left side of the abdomen, followed by vomiting, meteorism, and the signs of acute peritonitis. Two weeks later there was in the epigastrium a swelling giving a deep sonorous percussion-note, and the sound of succussion. The tympanitic-note extended to the base of the left side of the thorax, and the sound of succussion was heard in this situation behind, the respiratory murmur being abolished in that region. There was no amphoric breathing, nor any metallic tinkling. A longitudinal incision made at the summit of the epigastric swelling gave exit to a great quantity of fetid gas and pus. The abscess cavity contracted rapidly and in a month the wound had entirely healed. It was supposed that the perfora-

tion of the stomach which had given rise to this abscess, had cicatrized at the time of operation.

CHARRIN gave the Biological Society, July 30th, the results of his investigations of the action of the gastric juice upon toxins. It has been shown that the gastric juice as well as the juice of the intestine diminishes the power of diphtheria toxin. It digests it in other words just as it would any other albuminous substance. . A similar result is obtained if one mixes tetanus toxin with pepsin and dilute acid, and preserves the liquid for 24 hours at the body temperature. The toxin is also weakened by an exposure to bile and pancreatic juice. It is necessary to conclude, therefore, that the digestive juices have an important protective power against disease. This property may explain in part the power usually ascribed to the gastric and intestinal mucous membranes to resist the entrance of bacteria. At any rate it is easy to understand that gastro-intestinal troubles by altering the secretions in the alimentary canal predispose to the entrance into the system of microbes and their toxic products. The defensive mechanism is undoubtedly a complex one, but it is reasonable to suppose that these juices have at least as much power in the body as they have in a test-tube.

At the Academy of Sciences, August 8th, CHARRIN spoke of the transmission of toxins from the fetus to the mother. The facility with which toxins can pass from the mother to the fetus is well known. But the reverse of this process is equally possible. This was shown experimentally upon rabbits. A female was opened a short time before the birth of her young, and 1 c.c. of diphtheria toxin was injected in divided doses into the intestines of four of the young, their placentæ being avoided. In seven experiments of this nature, intoxication of the mother was produced, due to the passage of the placenta by the microbial products of the fetus. If a less virulent substance is used the injections may be several times repeated. By using sterilized cultures of pyocyaneus Charrin was able to render 3 out of 11 mothers relatively immune.

If then, poisons can pass from the fetus to the mother the same might take place when they were deposited in the fetus not by injection but had their origin in the father. From this results the interesting explanation of the phenomena of telegony so-called. If the elements of the fetus received from the father are of such a nature as to send into the mother a poison which will permanently affect her tissue-cells, making them more like those of the father, it follows that future children by another father may possess the characteristics of the previous father which have been so impressed upon the cells of the mother that her offspring partakes of their nature.

A the session of August 29th, REGNAULT and BIANCHI described the changes in the organs produced by a seventy-two-hour bicycle race. The examinations to determine these facts were made with a phonendoscope upon the first, second, and fourth winners of the race, immediately after its finish and again some days later. The abdominal organs, and notably the spleen, stomach, and liver, were notably diminished in volume. The subcutaneous fatty tissue had suffered in like manner. These changes were due to the lack of sufficient food and sleep, and to the excess of heat and excitement. The thoracic organs on account of the excess of blood coursing through them lost scarcely anything in size. The continual movements of the legs and pelvis, had displaced upward the organs of the abdomen and to a less extent those of the thorax. The right lung, on account of the weight of the liver, was lifted less than the left. The organs below the diaphragm were raised from one to two inches while the heart was displaced upward for fully as great a distance. It is easy to understand, therefore, the advantages of cycling in ptoses, pleurisy, and a too vertical position of the stomach.

The Fourth Annual Congress for the Study of Tuberculosis in Man and Animals was held in Paris from July 27th until August 2d. At the opening session, MARTIN read a paper upon the disinfection of the dwellings of the tuberculous, which has increased in Paris very rapidly of late. Whereas in the year 1892 only 4000 lodgings were disinfected on account of tuberculosis, the number for the first six months of 1898 is over 7000. One has only to think of the character of the dwellings of the very poor, where a whole family lives in one room, and many persons often sleep in one bed, to see how great is the danger of infection. Spittoons have been distributed, and attempts have been made to have them used, with a little water in them, the contents to be each day destroyed, and the spittoons boiled. Each week the patient's underclothes are to be boiled and washed. Many difficulties have been met, some of the patients being so poor that they could not afford to make a fire to boil anything, and others not having any underclothing at all. These prophylactic measures were in general well received. In some instances they had the unfortunate result to cause the afflicted individual to be regarded as a pestilence and even to be driven from the house.

LETULLE spoke of the hospital accommodation for tubercular patients in the city. Accommodations have been increased and facilities provided for the treatment of such patients with air, repose, and superalimentation; but there is urgent need for the erection by the city of numerous suburban hospitals which shall be given up entirely to the care of these patients. From a prophylactic point of view it is absolutely necessary that patients suffering from tuberculosis should be removed from their surroundings and cared for hygienically in buildings constructed for the purpose. Then as far as circumstances will permit, all those who have the disease should be cared for in such isolated institutions.

The reports of different experimenters upon Koch's tuberculin T.R. agreed in denying its value. "Despite the care and the time which we have given to this subject," said ARLOING, COURMONT, and NICOLAS, "it has been impossible to verify most of the affirmations of Koch in regard to his new tuberculin. The different results obtained can only be explained by the instability of the product or variations in the virulence of tuberculosis or differences in the technic. We deplore the lack of details furnished from Berlin. Our investigations have all led to the conclusion that tuberculin T.R. has no curative nor

preventive value in tuberculosis experimentally produced." Leclerg, after an experience with the tuberculin upon tubercular human beings said that its curative action is practically nil; and that while it is less dangerous than Koch's first tuberculin, it is by no means absolutely innocuous.

Courmont tested the serum reaction in suspected tuberculous pleurisy, and found the agglutinating reaction present in ten out of eleven pleurisy patients who had the clinical signs of tuberculosis. In the eleventh patient there was no reaction, and this result was sustained by the absence of bacilli in the fluid while guinea-pigs inoculated with it failed to become diseased. In five cases of tuberculous peritonitis the reaction was present, while it was wanting in eight cases of ascites due to cirrhosis of the liver. The agglutination was likewise produced in eight cases of tuberculous synovitis, but it was less marked than in the cases of pleurisy and peritonitis. The proportions in which the tuberculous serum was employed were from 1 to 5, up to 1 to 20. If the proportion of serum to culture was less than 1 to 5, agglutination was produced with plain serum.

Calot described his method for the treatment of tubercular joints without operation. He begins by making an intra-articular injection of 30 to 150 minims of naphthol-camphor every two or three days. After eight injections have been made, they are followed by two or three injections of iodoform-ether and then the joint is put at rest in compresses for three or four weeks. This completes the cure. Of forty patients so treated, thirty-nine were cured. The other had had the trouble for five years, and as it did not yield to treatment, an arthrectomy became necessary. In almost a quarter of the cases, the patients regained the partial or complete use of their joints. Calot expressed the opinion that one ought to attempt to regain motion in a cured tubercular joint in spite of the almost universal opinion to the contrary.

In a paper upon the "Surgical Treatment of Tuberculosis of the Bladder," Desnos said that curative operations such as curetting and resections usually gave no relief but resulted in the rapid spread of the infection throughout the urinary tract. The painful forms of tuberculous cystitis often render a suprapubic cystotomy desirable, but one ought not to attempt the removal of tuberculous patches from the mucous membrane, no matter how easily this could be performed. If the patient will consent to the maintenance of the fistula for a year or more, the pain will entirely and permanently disappear, and often the lesions themselves will remain stationary because of the relief afforded by the absence of congestion of the bladder and the cessation of the act of micturition. When every operation is contraindicated, it is necessary to have recourse to instillations of sublimate, or to injections of oil containing guaiacol, and to insist on the measures which will improve the general health.

Boucharde and Claude reviewed the methods which have been employed to utilize the Röntgen-rays in the diagnosis of tuberculosis. In conclusion they said that the radioscope was able to furnish invaluable knowledge of tubercular processes, but that the technic of the matter is extremely delicate and requires experienced observers, and favorable conditions. When so employed the method is able to give evidence of tuberculosis which cannot be detected by other methods of investigation. Thus Kelsch, who examined 124 soldiers who did not give evidence of tuberculosis by the ordinary tests, found by means of the radioscope that 51 of them probably had pulmonary lesions. In other cases of bronchitis and convalescent grippe the radioscope is able to show the integrity of the apices. The radioscope is also of value in showing the functional power of the lung, and it furnishes in all cases a fixed measure of the extent of the lesions for future comparison. Because of the difficulties of technic it will never be in the hands of every one, but rightly used it will prove one of the greatest aids in diagnosis, supplementing the facts gained by the methods now in vogue.

Widal spoke of local tuberculosis in aged persons and heredity in connection with tuberculosis. Local tubercular lesions, whether bony or in the skin, are rare in advanced age, but when they do occur they do not differ from those seen earlier in life. He had observed a dozen instances occurring in patients of from seventy to seventy-eight years of age. In some of them the tubercular infection had remained latent a remarkably long time. One of them had had hemoptysis at twenty, but no further manifestations of the disease until just at the close of his life. Two patients aged seventy-eight, gave a history of tubercular submaxillary glands at the ages respectively of eight and ten years. After a quiet interval of nearly seventy years, the disease again broke out, thus showing that its virulence can be preserved in the human body for this great length of time. Two other patients showed a sort of retrograde heredity of the disease. Their children manifested its lesions long years before they showed any of the symptoms, which later developed in them.

REVIEWS.

The Determination of Sex. By Dr. Leopold Schenk, Professor at the Imperial and Royal University and Director of the Embryological Institute in Vienna. Authorized Translation. New York: The Werner Co., 1898.

With a work bearing the authority of the name of the director of the Vienna Embryological Institute for sale to physicians and laymen alike, the old "Marriage Guide," "Sexual Hygiene," and similar works usually found in the back row of the book-case, with their alluring chapters on "How to Have a Boy or Girl at Will"—these books, the favorites of our fathers and of our wicked adolescent days, must be relegated to oblivion. Perhaps this fate will not be theirs until Dr. Schenk's theory has been given the rigid test of practical results; for unless we are grossly mistaken, other recent writers have claimed that male offspring may be acquired by other means than by the obliteration of all carbohydrates from the mother's economy.

The gist of the theory propounded by the author under consideration has been mentioned in the Medical News

(July 30, 1898). Dr. Schenk believes that upon the nutrition of the mother depends the sex of the impregnated ovum: a woman whose tissues are in a state of perfect metabolism may produce males, while a woman whose tissues do not respond as well to their katabolic demands, is more likely to bring forth females. The urine Dr. Schenk regards as the index. A trace of glucose is held to be inimical to male progeny as indicating imperfect metabolism. Dr. Schenk corrects the diet until the urinary examination shows no further trace of sugar. The remainder of the book is taken up with a history of previous efforts to regulate sex in men and animals, and with a citation of cases which the author regards as a vindication of his theory.

We suggest that the theory be not applied until it is desired to influence the sex of the infants of multiparæ, for it might prove embarrassing to a young woman to have frequent urinary examinations demanded and her diet rigidly supervised for two or three months previous to her marriage for the purpose of influencing possible offspring.

DISEASES OF THE EYE. By EDWARD NETTLESHIP, F.R.C.S., Ophthalmic Surgeon at St. Thomas' Hospital, London; Surgeon to the Royal London (Moorfield's) Ophthalmic Hospital. Revised and edited by W. T. HOLMES SPICER, M.A., M.B., F.R.C.S., Ophthalmic Surgeon to the Metropolitan Hospital, etc. Fifth American, from the sixth English, edition. Philadelphia and New York: Lea Bros. & Co., 1897.

SINCE the appearance of the first edition Nettleship's text-book has occupied the first place as a student's guide. In this day of voluminous treatises and discursive handbooks the popularity of conciseness and accuracy is attested by the publication of a sixth edition. The work has been brought up to the most recent standpoint. A supplement on color-blindness and the practical examination of railway employees by Dr. William Thomson adds greatly to the value of the volume, which contains, in an appendix, a well-arranged ophthalmic formulary.

THE PHYSICIAN'S VISITING-LIST FOR 1898. Philadelphia: P. Blackiston, Son & Co., 1898.

THIS well-known visiting-list appears in its usual form. It is a convenient and compact little book of its kind.

ATLAS AND ESSENTIALS OF PATHOLOGICAL ANATOMY. By DR. O. BOLLINGER, Obermedicinalrat and Professor. Volume II. *Urinary Apparatus, Sexual Organs, Nervous System, and Bones.* New York: William Wood & Company, 1898.

WITH the present volume of *Wood's Medical Hand Atlases*, Dr. Bollinger's work on "Pathological Anatomy" is completed. The translator, whose name for some unknown reason never appears in these atlases, has accomplished his task in a satisfactory manner and has closely followed the German text throughout. The illustrations, as heretofore in this series, are superb and leave nothing to be desired. Altogether the work fulfils its purpose admirably and is a valuable addition to the ever-increasing number of books on this subject of medicine.

LECTURES ON THE THEORY AND PRACTICE OF VACCINATION. By ROBERT CORY, M.A., M.D., Cantab., F.R.C.P., London. New York: William Wood & Company, 1898.

THIS little book, comprising the results of the author's experience of twenty-two years of teaching and practising vaccination, would appeal to public health officials chiefly. It contains nothing new, but is filled with valuable statistical tables and compilations, which might be of especial value to those who are engaged in polemics with antivaccinationists.

THERAPEUTIC HINTS.

Acid Drink for Diabetic Patients.—

℞	Acidi nitrici	*m.* lxx
	Glycerini	ʒ v
	Aq. dest.	Oii.

M. Sig. To be taken during 24 hours; a small quantity at a time.

Aromatic Cod-liver Oil.—The following mixture is said to lose all odor of cod-liver oil, and to taste only of eucalyptus:

℞	Ol. morrhuæ	Oi
	Ol. eucalypti	*m.* lxxv.

M.

Formulæ for Employment of Chloral.—

1. Hypnotic potion:

℞	Chloral hydrat. . . .	gr. x–xxx
	Sodii bromidi	gr. xv–xlv
	Codein	gr. ½–¾
	Syr. amygdalæ . . .	ʒ ss
	Aq. dest. . . . q. s. ad.	ʒ iv.

M. Sig. To be taken at night.

2. For cardiac dyspnea:

℞	Chloral hydrat. . . .	ʒ ss–ʒ i
	Potassii iodi	gr. xv–xxx
	Syr. acaciæ	ʒ iv.

M. Sig. One teaspoonful every hour.

3. For convulsions:

℞	Moschi	gr. iii
	Camphoræ	gr. xv
	Chloral hydrat. . . .	gr. viii–xxiv
	Yolk of egg	No. i
	Aquæ	ʒ iii.

M. Sig. For rectal injection.

For Scabies.—

℞	Sulphuris sublimat. }	aa . . .	ʒ ss
	Picis betulini }		
	Cretæ preparat.		gr. xl
	Saponis viridis }	aa	ʒ i.
	Adipis }		

M. Ft. ungt. Sig. External use.

For Chloro-anemia.—

℞	Calcii phosphatis }	aa . . .	gr. viii.
	Sodii chloridi }		
	Sacchari }		

M. Ft. chart. No. i. One such powder four to six times a day.—*Moraczewski.*

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXXIII. NEW YORK, SATURDAY, OCTOBER 15, 1898. NO. 16.

ORIGINAL ARTICLES.

SHALL ABSORBABLE OR NON-ABSORBABLE LIGATURES AND SUTURES BE EMPLOYED IN HYSTERECTOMY AND SALPINGO-OOPHORECTOMY?[1]

BY CHARLES P. NOBLE, M.D.,
OF PHILADELPHIA;
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THE solution of the question as to whether absorbable or non-absorbable ligatures and sutures shall be used in abdominal surgery must be sought in the practical experience of the active workers in this field. Theoretical considerations are of value, but are of minor importance in comparison with practical results, and this is especially true in a subject so well worked out as that under consideration. To make my contribution to this discussion as concise as possible I shall confine my remarks largely to my personal experience and to the considerations which have influenced me in my choice of suture and ligature material in the past.

During the first eight years of my work in abdominal surgery I employed non absorbable ligature and suture material, that is, silk and silkworm gut, exclusively. During the last few years catgut has been used more and more, and non-absorbable materials relatively less. My own results with non-absorbable ligature and suture material have been excellent. The usual objections to the use of silk ligatures are that the silk is liable to become infected and to form the focus of an intraperitoneal abscess, or to be the cause of intraperitoneal sinuses. The percentage of cases in my hands in which intraperitoneal abscesses or sinuses were due to the use of silk ligatures was extremely small, and for a number of years it was confined exclusively to an extreme class of cases of pelvic suppuration in which gauze drainage was employed. The last case of ligature sinus in my experience dates back more than three years.

To secure the best results with silk ligatures, certain definite principles must be followed. The silk ligatures must be sterile. This has been accomplished by the method of fractional repeated sterilization. The ligature silk must be fine. This I consider a *sine qua non*. If heavy pedicle ligature is employed, abscesses about the pedicle and ligature sinuses are inevitable in septic cases. This is partly due to the fact that it is more difficult to encapsulate heavy ligature than fine ligature, and not less to the fact that the temptation to include large masses of tissue in the ligature is irresistible when heavy silk is employed. If fine silk is used, it is essential to include only a small amount of tissue in the ligature, as otherwise the ligation is insecure. The devitalization of large masses of tissue by heavy ligatures and the difficulty of encapsulating these ligatures, explain the relative frequency of pedicle abscess and ligature sinuses when this method is employed. The use of fine silk, the ligation of small masses of tissue, and careful toilet of the peritoneum, including a careful washing of the pelvis with salt solution as the final step in the operation, will ensure a minimum percentage of pedicle abscesses and ligature sinuses when silk is employed. The question of drainage also has a definite relation to the infection of silk ligatures. Pedicle abscesses and ligature sinuses were more common in the old days when drainage was frequently employed. The use of the Trendelenburg posture, the protection of the intestines from infection by covering them with gauze, thorough hemostasis, and an intelligent toilet of the peritoneum, including washing of the pelvis with salt solution, have enabled us to abandon drainage in all but the most exceptional cases. This improvement in technic greatly lessens the liability of silk ligatures to infection.

Mention has already been made of the fact that the cases which usually yield pedicle abscesses or ligature sinuses were those of extensive pelvic suppuration. Non-absorbable ligatures gave trouble in another way in a different class of cases—hysterectomies when the cervix was amputated at or below the internal os. In these cases in the beginning I used silk ligatures for the uterine arteries and silk sutures to close the cervical stump. These sutures and ligatures gave no trouble for a time after operation, but in a number of cases the sutures in the cervix became infected from the cervical canal, and some weeks or months later caused cellulitic deposits or ligature sinuses in or about the cervix. My own experience in this class of cases was that of others, and showed the necessity of abandoning non-absorbable sutures about the cervix in hysterectomy.

[1] Read in the discussion on "Should Non-absorbable Ligatures Be Discarded in Gynecological Surgery?" at the Twenty-third Annual Meeting of the American Gynecological Society, held at Boston, May 24, 25, and 26, 1898.

My own use of silk as a ligature material was partly due to early training, and partly to the fact that the general results of those who used silk as ligature material appeared to be better than those who championed the cause of catgut, the inference being that infection from the use of catgut was the cause of this apparent difference in results. The older methods of preparing catgut would not stand the test of a bacteriologic examination, and so long as this was the case it did not seem to me that one could conscientiously make use of catgut within the peritoneal cavity. With the introduction of reliable methods for the sterilization of catgut, this objection ceased to exist, and I gradually made use of it as an adjuvant to silk, both as ligature and suture material in the peritoneal cavity. As silk had occasionally given trouble in suppurative cases and in hysterectomies, catgut was employed for ligatures and sutures about the cervix in this class of cases. Not trusting it wholly, in addition to the ligation with catgut, fine, silk ligatures were applied to the isolated ovarian and uterine arteries. This was done in septic cases after the washing out of the pelvis, and in none of these cases has the fine silk ligature given trouble. With the substitution of catgut for silk to close the cervical stump in hysterectomy, post-operative inflammation about the cervical stump ceased to exist. It is an interesting clinical fact that not a single abscess about the stump of the cervix has occurred among my hysterectomy cases. Secondary ligature sinuses about the cervix occurred in a few of the early cases, but since the adoption of catgut this complication has entirely disappeared.

I next substituted catgut for silk in sewing the peritoneal flap over the stump in hysterectomies, and in closing the peritoneal layer of the abdominal wound. Increasing experience added to my confidence in catgut, and gradually it has been substituted for silk as a ligature material in my abdominal work. At the present time it is the routine ligature material in my work, and it is my expectation that silk will be abandoned for this purpose. I still employ silk in appendicitis operations, to suture the bowel, and for other special indications, but believe that even this field for its employment will be narrowed in the future.

My experience with non-absorbable sutures in closing the abdominal wound has been large. In my earlier work the old method of through-and-through sutures of silk or silkworm gut was employed. This method was abandoned because of its imperfections, and especially because of the relative frequency of hernia resulting from it. In May, 1892, I began the use of tier sutures, using silkworm gut as the material for the buried sutures.[1] The first method employed was the use of interruptured sutures of silkworm gut, introduced through the aponeurosis of one side, through the rectus muscle and the peritoneum, and in a reverse way through these structures on the other side of the wound. These sutures were tied and cut off, and remained permanently buried in the abdominal wall. The remaining portion of the wound in the subcutaneous fat and skin was then closed with interrupted silkworm-gut sutures. At a later period, instead of this superficial row of silkworm-gut sutures, a continuous catgut suture was employed to close the cellular tissue, and an intracuticular catgut suture to close the skin. In 1897 I adopted a new method of closing the abdominal wound, and in a paper, entitled "A New Method of Suturing the Abdominal Wall in Celiotomy"[2] described the technic of this method, and also reported and discussed my experience with buried permanent sutures in celiotomy incisions, Alexander operations, and femoral and inguinal herniotomy. At that time, buried permanent sutures had been employed in 365 operations, with 8 suppurations. Since that date 107 patients have been operated upon, with two suppurations, making a total of 472 cases, of which 10 suppurated, or 2 per cent. Of these cases subsequent hernia has developed in two. In one, the original operation was done for a large umbilical hernia in a large fleshy woman. More than a year later, during an attack of the grippe, the line of union gave way. This is the only hernia which has come to my notice among the cases in which primary union was obtained, 462 in number. Of the 10 cases in which suppuration took place, one hernia has developed. The operation was done in this case for tubercular pyosalpinx and tubercular peritonitis. The abdominal wound suppurated, and the buried sutures were removed. This patient subsequently developed a hernia, and later died of phthisis.

What becomes of the buried permanent sutures in cases in which primary union is obtained, is the question of greatest interest. After employing silkworm gut as a buried permanent suture for six years I have still to make the report that they remain permanently buried in the tissues. Not one of these patients has reported to me that the buried sutures have caused suppuration, and although I have made careful inquiry among my confrères in Philadelphia, I have learned of no case in which this accident has occurred. Both from the stand-

[1] "Remarks on the Use of the Buried Permanent Suture in Abdominal Surgery," *Amer. Gynec. and Obstet. Jour.*, December, 1896.

[2] *Amer. Jour. of Obstet.*, vol. 35, No. 4, 1897.

point of obtaining primary union, and from that of preventing hernia, this method of closing the abdominal wound leaves little to be desired. The objection to the method is the length of time which it consumes. Depending upon the length of the wound, it requires from ten to twenty minutes, or even longer. This is a real objection to the method, and may induce me to adopt chromicized catgut to close the muscles and fascia. I believe this would give admirable results, especially if the principle of overlapping the fascia recommended by me were adopted.

Silkworm-gut buried in the abdominal wall seldom gives rise even to the slightest irritation. Shortly after operation I have known patients to complain slightly of irritation about the sutures, which, however, invariably subsided. In the Alexander operation, however, a number of patients have complained of pain greater or less in character in the inguinal canals, which persisted for a long time. In one patient, a highly neurotic woman, I cut down upon one canal and removed the buried sutures, after which the patient ceased to complain. This patient knew of the presence of the buried sutures, and, therefore, there is some question as to whether the removal of the sutures had a local or mental effect. In this operation I have abandoned the interrupted silkworm-gut suture, and adopted the continuous chromicized catgut suture as recommended by Edebohls.

My contribution to the discussion would be incomplete without some remarks upon the character and preparation of catgut, and the advantages and disadvantages of this suture material for ligatures and sutures in abdominal surgery. Having tried various methods of selecting catgut from that furnished by the instrument-dealers, and that by commercial houses for use in the Arts, for some time I have confined my purchases to that furnished by a New York manufacturer. It is very difficult to obtain catgut in which the standard of size is maintained. Most of the commercial catgut which I have been able to obtain has been very defective in this respect. Much of it also has been of little strength. The catgut already mentioned has proven fairly satisfactory in every way.

The cumol method of sterilization has been adopted, and has proven very satisfactory. If the process is carried out by a competent person, the results are very uniform, and the catgut is even stronger than before sterilization. It has the advantage also that it ties well, and that it is not spoiled if it comes in contact with water. This is especially valuable when catgut is used in plastic work, as it can be used with constant irrigation of the field of operation. Apparently the cumol has the additional effect of lengthening the time necessary for the absorption of the catgut. When chromicized catgut is employed, the method recommended by Edebohls has been followed up to the point of chromicizing and drying the catgut. It is then put through the process of sterilization by the cumol method. The cumol method has stood the test of bacteriologic examinations, and in my hands the very satisfactory clinical test that after having used it for several years I know of not a single case of infection or suppuration which has followed its use. These considerations strongly recommend this method for the sterilization of catgut. The objections to the method are that it is somewhat expensive, and that to prepare a lot of catgut requires the undivided attention of a competent person for a number of hours.

The objections formerly urged against catgut were that it was a source of infection, and that it did not afford security against secondary hemorrhage. The first objection can no longer be urged, because at the present time several reliable methods for the sterilization of catgut are well known. Hence, the second objection only need be considered. The long continued and increasing use of catgut by such men as Boldt, Edebohls, A. P. Dudley, Gordon, Mann, and Kelly in this country, and Martin, Olshausen, and Zweifel in Germany, not to mention others, is a practical answer to the assertion that catgut is an unreliable ligature material. So far as I know, every one who has had extensive experience with catgut not only continues to use it, but is broadening the field of its application. So far as my own individual experience is concerned, in not a single case have I seen hemorrhage, either primary or secondary, in which catgut was employed. It is well known, however, that secondary hemorrhage has taken place after the use of catgut, and it is a very practical question how most surely to prevent this serious accident. Some time ago a fatal secondary hemorrhage from the uterine artery occurred in Kelly's service at Johns Hopkins Hospital on the seventh day after the use of catgut. In this case, apparently after the absorption of the catgut ligature, the thrombus in the vessel was forced out by arterial pressure. Wishing to know the experience of some of those who have made large use of catgut from the standpoint of secondary hemorrhage, I wrote to Drs. Boldt, Dudley, and Edebohls. Dr. Boldt states that he uses catgut exclusively in all abdominal work except for suturing the intestines. He takes no precautions in tying the knot, except "to make three loops instead of two

as in the case of silk." Some seven or eight years ago he had a death from secondary hemorrhage, due to the slipping of a mass ligature of catgut, and another case about two and a half years ago. Since then he has discontinued the use of mass ligatures, and ligates each vessel separately, using very fine catgut. He states that in both the cases of hemorrhage only a double knot was made instead of a treble knot. Dr. Dudley states that he makes general use of catgut in his hysterectomies, and has done so for years; in fact, catgut is his routine suture and ligature material in all his work. He has no cases of secondary hemorrhage to report. He always ties three knots, and leaves at least half an inch of free catgut beyond the knot. Dr. Edebohls states that he has always been an advocate of catgut in abdominal surgery, and that he used silk only in his first three or four celiotomies. Subsequently he used catgut exclusively except in intestinal surgery, and now he uses catgut even for this purpose. He has no cases of secondary hemorrhage to report. The method of tying the knot is to make a single loop in the first tie, and a double loop in the second. The knot is described on page 10 of his article "What Is the Best Method of Making and Closing the Celiotomy Incision?" published in the *American Gynecological and Obstetrical Journal* for May, 1896.

The foregoing indicates that the risk of secondary hemorrhage from the use of catgut as a ligature material is slight, and that it may be reduced to a minimum by the intelligent use of ligatures. Undoubtedly the ligation of the isolated vessels affords the greatest security against secondary hemorrhage. The method which I have followed is first to use relatively light catgut as mass ligatures, and subsequently to place individual ligatures upon the separate vessels. In this way time is saved in the operation, and equal security is assured. Until very recently fine silk has been used for the ligation of the individual vessels, but it is my intention to substitute catgut for this purpose. In tying catgut I make a triple knot invariably, and in either the second or third tie make use of a double instead of a single loop. The free end of the ligature is cut off about a third of an inch from the knot.

Having considered the supposed objections to the use of catgut, it remains to mention the real advantages of this material. In my own experience non-absorbable sutures and ligatures have given almost no trouble. I have adopted catgut in the hope that it will give no trouble at all, and thus eliminate even the small percentage of ill results formerly encountered. We should at least aim at the ideal, especially if in doing so we lose no practical benefit by change in technic. It is certain that with care and intelligence intraperitoneal abscesses and intraperitoneal sinuses due to silk as a ligature material will seldom be met with; but with catgut as a suture material, if suppuration does take place, it is a satisfaction to know that the healing of the abscess or sinus will not be delayed until the sutures are discharged.

For the expert who has every facility at his command which the modern hospital affords, I think there can be no question that the absorbable sutures and ligatures offer distinct advantages over the non-absorbable. For the occasional operator, I question very much whether this is true. He is not likely to have a supply of sterile catgut, nor the facilities to sterilize it. His relative inexperience also in applying ligatures puts him at a disadvantage in using catgut, as undoubtedly more skill and patience is required to properly secure catgut ligatures than silk ligatures, therefore, except for the expert I am inclined to believe that sterile silk will give better results than catgut.

FORCIBLE STRAIGHTENING OF SPINAL CURVATURES.[1]

BY JOHN RIDLON, M.D.,
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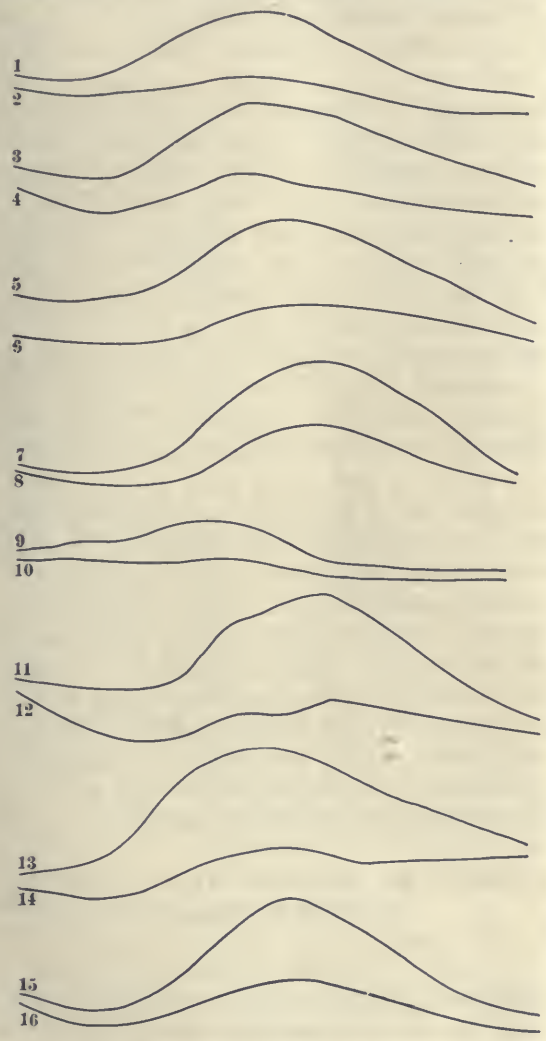
PROFESSOR OF ORTHOPEDIC SURGERY IN THE NORTHWESTERN UNIVERSITY MEDICAL SCHOOL.

THE immediate straightening of spinal curvatures by the use of considerable force is not a new procedure. Two thousand years ago the method was so old that the name of its author had been forgotten. The only new thing in its revival is that the patient is profoundly anesthetized during the operation. I made my first attempt at forcible straightening of the spine with the patient fully anesthetized on June 23, 1897. Since that time I have made the attempt in every case coming under my observation in which it seemed to me admissible, and in which, after fully explaining the operation and its results to the parents, permission to operate could be obtained. I think I have learned some things from personal experience, but there are still several points upon which I feel in more or less doubt, and it is these that I would be glad to have discussed. As to spondylitis: (1) Is there any risk to the patient except dissemination of tubercle and death from general tuberculosis or tubercular meningitis? (2) What additional percentage of risk is there from dissemination of tubercle? (3) Does the presence of demonstrable abscess or of a sinus add to the risk? (4) How much of a relapse, or return, of deformity must we expect during the subsequent treatment by recumbency and fixation-

[1] Read at the Twelfth Annual Meeting of the American Orthopedic Association, Boston, May 18, 1898.

dressings? (5) What are the best fixation-dressings during recumbency, and afterward? (6) Can we reasonably expect the gap between the carious bone surfaces produced by the operation to fill in and solidify with bony material so that relapse of deformity after the healing of the tuberculous process will not take place? (7) Will the period of treatment be prolonged or shortened by the operation, and about how long will that period be? (8) Is the use of an anesthetic an advantage or a disadvantage? As to



scoliosis: (1) Is there any risk in forcible straightening? (2) What degree of gain may reasonably be expected? (3) Can the gain from forcible straightening be maintained? As to rachitic curvatures: What may we reasonably expect from forced straightening?

On October 5, 1897, I read a paper on this subject before the Mississippi Valley Medical Association at Louisville, Ky., reporting the cases of the patients operated upon by me up to that time. The paper was not published, but was emended and amplified and again read on December 23, 1897, before the Chicago Medical Society. It was published, in abstract, in the February number of the *Chicago Medical Recorder*, and in full in the *Journal of the American Medical Association*, March 26, 1898. Altogether I have attempted the operation in 16 cases of spondylitis, 7 cases of scoliosis, and 1 case of rachitic curvature. One case reported in my October and December papers as scoliosis, and included here among the seven cases of scoliosis, I am inclined to regard as spondylitis because the mother died of tuberculosis; because the deformity, though lateral and posterior, was very great for so short a duration as two years; because the sensations communicated to the hands of the operator during the straightening were identical with those felt in straightening spondylitis and quite different from that in the cases of undoubted scoliosis; and because of the utter helplessness of the patient when the jacket was removed on account of an attack of typhoid fever eight months after the straightening.

I will not enter into the details of the cases already published, but those since December 23, 1897, are as follows:

Case I.—Female, six years old. Spondylitis; duration two years. Family history negative. Onset preceded by traumatism. Previous treatment various. Tracing No. 1 shows deformity present. There was an old sinus in the left loin. On December 28, 1897, the spine was straightened, as shown in tracing No. 2, and a plaster-jacket put on during horizontal traction.

Case II.—Male, ten years old. Spondylitis; duration seven years. Family history negative. Onset preceded by traumatism. Previous treatment by anteroposterior spine brace. The deformity present is shown by tracing No. 3. There was an undescended psoas abscess. On January 6, 1898, the spine was straightened, as shown by tracing No. 4, and a plaster-jacket was put on during horizontal traction.

Case III.—Male, six years old. Spondylitis; duration more than nine months. Family history negative. Onset preceded by traumatism. Previous treatment by an ill-fitting steel brace. The deformity present is shown by tracing No. 5. On January 8, 1898, the spine was straightened, as shown by tracing No. 6, and a plaster-jacket was put on during suspension by the feet.

Case IV.—Female, ten years old. Spondylitis; duration four years. Family history negative. Onset preceded by traumatism. Previous treatment by plaster-jacket for six months, when paraplegia came on; then recumbency and horizontal traction by weight and pulley for one year until the paraplegia had passed off; then anteroposterior spine-brace with chin support. The deformity present is shown by tracing No. 7. There was complete motor and partial sensory paraplegia, and the feet and legs were cold and blue. On January 18, 1898, the spine was

straightened, as shown by tracing No. 8, and a plaster-jacket including the head was put on during suspension by the feet. Immediately after recovery from the anesthetic the patient was able to move the limbs, and after twenty-four hours the sensation, color, and temperature of the limbs were normal. There was partial relapse of the paraplegia for which a second operation was performed on February 24, 1898, since which time there has been no paraplegia.

Case V.—Male, thirteen years old. Spondylitis; duration eight years. Family history negative. Cause unknown. Previous treatment various. The deformity present is shown by tracing No. 9. There was an undescended psoas abscess on each side. On April 13, 1898, the spine was straightened, as shown by tracing No. 10, and a plaster-jacket was put on during horizontal traction.

Case VI.—Female, five years old. Spondylitis; duration about two years. Family history negative. Cause unknown. Previous treatment by an ill-fitting steel brace. The deformity present is shown by tracing No. 11. The patient had had cough and indigestion for about two months. Uncertain diagnosis of pulmonary tuberculosis. On April 14, 1898, the spine was straightened, as shown by tracing No. 12, and a plaster-jacket, including the head, was put on during suspension by the feet.

Case VII.—Male, nine years old. Spondylitis; duration five years. Family history negative. Cause unknown. Previous treatment by a brace, applied by an instrument-maker, followed by an anteroposterior spine brace applied by an orthopedic surgeon. The deformity present is shown by tracing No. 13. There was an undescended left psoas abscess. On April 20, 1898, the spine was straightened, as shown by tracing No. 14, and a plaster-jacket was put on during horizontal traction.

Case VIII.—Male, five years old. Spondylitis; duration one year. History negative. Onset preceded by traumatism. Previous treatment by an ill-fitting steel brace. The deformity present is shown by tracing No. 15. On May 5, 1898, the spine was straightened, as shown by tracing No. 16, and a plaster-jacket was put on during horizontal traction.

The cases of scoliosis present nothing of sufficient interest to warrant detailed description. The youngest patient was nine years old and the oldest eighteen years; the shortest duration of deformity was eighteen months, and the longest seven years. In all the cases the deformity was reduced from one-third to one-half.

The patient in whom rachitic curvature was present was a male, seventeen years old, and the deformity dated from infancy. There had been no increase of the deformity for fourteen years. The operation was performed on January 13, 1898, and nothing was gained in the way of correcting the deformity.

Taking into consideration all of my cases of spondylitis, four patients had demonstrable abscesses, one had an old sinus, and one had paraplegia. No harm appears to have arisen from the abscess complication, or from the presence of the old sinus. The paraplegia appears to have been positively benefited. Two patients stopped breathing on being turned from the prone to the supine posture during chloroform narcosis, but both began to breathe again after a short interval; in one instance the plaster-jacket was cut open and allowed to gape an inch, and in the other it was not. Only one patient showed any elevation of temperature after the operation. In this instance disseminated pulmonary tuberculosis was suspected, but not proven. The patient's temperature was not taken before the operation, and consequently it is not certain that the elevation was due to the operation. In two instances it was not possible to straighten with what seemed to the operator a safe amount of force. Pressure sores under the plaster-dressings have been frequent. Their locations have been over the kyphosis, the scapular spines, the posterior iliac spines, and the sternum, and in various places about the head.

Relapsed deformity can usually be greatly reduced by a bearable amount of horizontal traction with backward bending over a foot-rest without an anesthetization. Only two patients have as yet been allowed to get up and walk around, one in a plaster-jacket, and one in an anteroposterior leverage spine brace. In no case as yet do I think I have obtained reliable bony solidification at the point of disease.

As to the cases of scoliosis, all the subjects were materially straightened and made taller, but all have lost part of the gain since the operation. It appears to me doubtful if a permanent straightening is maintained unless a reliable fixation-dressing is worn for a long time. Despite my failure above recorded, I am convinced that straightening of rachitic curvatures can be effected in younger patients.

SUPPURATING OVARIAN AND INTRALIGAMENTOUS CYSTS.[1]

By WILLIAM H. WATHEN, M.D.,
of Louisville, Ky.;
Professor of Obstetrics, Abdominal Surgery, and Gynecology in the Kentucky School of Medicine; Gynecologist to the Louisville City Hospital.

An ovarian tumor, as a result of torsion or twisting of the pedicle, may have the circulation cut off to such an extent that the life of the tumor is destroyed, so that gangrene, suppuration, and death ensues unless adhesions are so extensive as to furnish a sufficient supply of blood to the parts. As a rule, however, there are no extensive adhesions to the tumor when torsion of the pedicle has been sufficient to completely obstruct the circulation. The suppurating tumors of which I desire to speak are

[1] Read before the Louisville Clinical Society.

not the result of torsion of the pedicle, but result from the passage of pathogenic germs from the bowel through the walls of the tumor. It is sometimes stated that ovarian cysts, or cysts arising in the uterine adnexa, suppurate because of the passage of gas from the bowel into the tumor. I do not understand, nor can I appreciate, how this can occur from the passage of gas *per se*, and I believe that these suppurating tumors result from the passage of germs of suppuration, such as the streptococcus, etc., but more frequently from the passage of the bacillus coli communis from the bowel into the tumor.

I recently removed a suppurating tumor from a feeble old woman, which weighed about forty pounds. The patient's general condition was good, considering the size of the growth and the fact that it had existed for several years, and I was greatly surprised to find upon introducing a trocar to drain off its contents that it was purulent. The amount drawn off was five gallons. The omental and intestinal adhesions were so lightly attached that they were easily separated with a sponge, showing that the suppuration had so changed the character of the tissue surrounding the cyst wall that the adhesions were ready to drop off.

In an examination of the tumor since removal it appears that adhesions had existed over its entire surface, and one would believe that I had separated them from every part of the surface of the cyst. Such a peculiar condition resulted from the action of the infection upon the walls of the tumor, and when the intestine lying in contact with the cyst wall was separated, although it was not torn, it was so rotten that I feel sure had I not sutured it thoroughly in a longitudinal direction for at least three inches it would have ruptured and the woman would have lost her life. The patient gave no evidence of constitutional infection, and had no trouble after the operation, making a prompt recovery.

The infection evidently came from the cecum and the ascending colon where they were adherent to the cyst. I have removed several large suppurating tumors which were intraligamentous or retroperitoneal; they had extended under the bowel and had unfolded the mesorectum and the mesocolon, the muscularis of the bowel lying in direct contact with the cyst wall, so that the bacilli could pass from the bowel without having to penetrate the peritoneum.

Six months ago I removed a tumor containing three gallons of pus. This tumor had existed for ten or twelve years, and had been tapped many times by a doctor in Cincinnati. The patient had been under the observation of two of our general practitioners, and a month before I operated she was suddenly taken very sick, becoming unconscious and remaining so for several days. She had high fever and her general appearance and complexion indicated that she had pus somewhere in the system. The tumor was retroperitoneal, had opened the folds of the mesorectum and the mesocolon, and had to a limited extent invaded the mesentery of the small intestine, so that the surface enucleated was twenty inches in diameter. The tumor having suppurated, the toxins from bacterial growth caused the symptoms from which the patient had recently suffered.

From another woman I removed 1½ gallons of pus from a retroperitoneal cyst arising in the hilum of the ovary, which had also unfolded the mesentery of the colon. In a fourth case, in which I operated per vaginam, on the left side there was a cyst extending under the rectum and the colon, and nearly up to the umbilicus which had suppurated. On the right side there was an intraligamentous cyst extending nearly up the umbilicus which had not suppurated. In these four cases the infection resulted from the passage of bacteria from the adherent bowel, or from the bowel where the mesentery had been opened after a fashion that allowed the muscularis of the gut to come in direct contact with the cyst wall of the tumor.

The same method of infection I am sure applies to the following case: About two years ago I performed a celiotomy upon a young married woman from Owensboro, Kentucky, for the removal of a tumor in the left inguinal region, extending nearly to the umbilicus. She was so emaciated that she did not weigh more than seventy pounds, and had been an invalid for many months, but was not generally septic. The cyst was intraligamentous, had unfolded the mesorectum, and contained two quarts of pus. The inflammatory exudations had so firmly united the cyst wall to the capsule that no dissection could be made, and the opening in both the cyst and the capsule was sutured to the abdominal incision and the cavity drained. The cavity was irrigated twice daily with sulphurous acid one part to water ten parts, which prevented bad odor and very soon caused a healthy granulating surface, and the patient returned home in four weeks with the wound entirely closed and has had no further trouble.

Two years ago I was consulted by a woman from near Salem, Indiana, whose abdomen was enlarged by a tumor to the size of that of a pregnant women at term. She had been delivered of a well-developed child about two months before she was referred to me. The tumor had been diagnosticated before she was pregnant but apparently had caused no trouble during pregnancy. Her convalescence from the labor was protracted; she had attacks of

local peritonitis, had not been able to leave her bed, had become greatly emaciated, and her general appearance indicated a fatal prognosis unless she could be cured by surgical means. I diagnosticated an ovarian cystoma with extensive adhesions. The cyst was unilocular, adherent to intestines and omentum, and contained two gallons of pus. Before the operation her temperature was 103° F., and pulse 125, but she had no fever after the first day, and her pulse was normal after a few days. Her convalescence was uninterrupted, and she returned home in three weeks.

Referring further to the first case reported, it is unusual that a woman should have so much pus in her abdomen without its causing more serious systemic infection, but the toxins of suppuration seem not to have been absorbed into the system, as no symptom of septic poisoning was present. In none of these cases did the veins or the lymphatics carry pathogenic germs into the system, nor were the toxins absorbed in any but the second case, in which the tumor contained three gallons of pus. In none of the six cases was the peritoneum soiled with pus during the operation, nor was there the slightest evidence of infection following the operation, convalescence in each case not being disturbed. While no bacteriologic examination was made of the pus from any of the cysts, I believe it was sterile, the pathogenic bacteria having been destroyed, as so often happens in chronic cases with large accumulations of pus.

NOTES ON SURGERY IN THE RECENT WAR.[1]

By WILLIAM DUFFIELD BELL,
OF NEW YORK;
MAJOR AND SURGEON, 71ST REGIMENT, NEW YORK VOLUNTEERS.

On the morning of June 20th, the transports having on board the 5th Army Corps under General Shafter and designed for the invasion of Cuba, arrived off Santiago. During the following four days the entire force, consisting of about 13,000 men, was landed in two detachments, one at Baiquiri, a village on the coast about seventeen miles east of Santiago, and the second detachment at the small village of Siboney, a few miles nearer Santiago, and on the line of railroad running from the Juragua Iron Mines, near Baiquiri, to the City of Santiago. Siboney was chosen as a base of operations against Santiago, and here it was that the greater part of the Army of Invasion was collected. Throughout the hamlet were several hospitals for wounded Cubans, which were directly under the control of Cuban surgeons, and were located in houses and sheds all in a more or less insanitary condition. The wounded in these hospitals were the first met with in which the results of modern projectiles could be studied, and while but little regard had been paid to the rules of antisepsis, yet they furnished object lessons that proved of great value in the campaign that followed, by the variety of wounds and the effects produced by the bullet of the Mauser rifle, the explosive bullet used by the Spanish Volunteers and fired by them from the old-fashioned Springfield rifle; also, the bullet of the ordinary Springfield rifle, and the wound produced by the shrapnel used by the Spanish artillery. The surgical dressings used by the Cuban surgeons were of necessity of the most meager character, though much skill was often shown in the treatment of these cases, and it is not a matter of surprise that they should have used these houses for hospital purposes since the same error was committed by the surgeons of the American Army when the wounded Americans from the battle-field of La Guasimas, on the morning of June 24th, as they were brought in, were placed in houses under like unsanitary conditions, when the large, open sheds of the Juragua Railroad Company, on a slight elevation and near the seashore, would have afforded ample protection from the sun by day and the heavy dews by night. These sheds were afterward occupied by the 71st Regiment, New York Volunteers, who found them a very desirable place in which to be quartered. After the army had landed and advanced on its march toward Santiago, a large and well-equipped hospital was established at Siboney under Major La Garde, Surgeon United States Army, who, prior to leaving Tampa, had arranged his ambulance and hospital outfit in perfect working order, but through some mischance this outfit was scattered among several different transports, and the army was deprived of much that would have aided materially to the efficient services rendered by this officer. There was but one field hospital in the American army in Cuba, and this was established and maintained mainly through the determined efforts of Major M. T. Wood, Chief Surgeon of the 1st Division, 5th Army Corps. This officer, when he could not secure sufficient transportation for his hospital equipments, loaded his own horses and those of the medical officers with him, with all they could carry, and the three ambulances, which constituted the entire outfit of the army, and which were attached to his division, and in this manner, by repeated trips, moved his field hospital from Siboney to Savilla, a place on the trail leading to Santiago, and about seven miles from Siboney. This was the only halt made by the army after it left Siboney until the San Juan Hills were captured after the bloody battle of July 1st, and where the army

[1] Read at a meeting of the New York Academy of Medicine, held October 6, 1898. For discussion see page 507.

encamped from that date, until it was finally moved out of Cuba and returned to the United States.

Major Wood, June 30th, established his field hospital at Playa del Este, a small, open field about three miles distant from the San Juan Hills, and near the Aquadores River, in order that a plentiful supply of water could be had conveniently. Three large tents were pitched for operating purposes, while four or five similar ones were used as follows: one for the preparation of antiseptic solutions, and in this tent was placed a large filter, through which water, that had previously been boiled, was filtered. This was done in order to make sure that any soluble poisons might be destroyed, and all doubt as to the purity of the water used set to rest. Men were detailed for this purpose, and all the water used in the operations and in the dressings of the wounded was so prepared. Five additional operating-tables besides those in the operating-tents were placed in the open space in front of the tents, and were used by the surgeons, who were assisting the hospital staff, for minor operations, and upon which wounds of a less serious character were dressed. Another tent contained surgical supplies and drugs only. The other tents were used for wounded officers and for those cases of a serious character and which required extra amount of care. The capacity of this hospital was limited to the accommodation of 100 patients, and yet over 650 patients were treated here before dusk on July 1st, and upward of 400 more had been attended to before the night of July 2d. There was no scarcity of surgical supplies and dressings at this hospital. Large boxes containing these articles and sterilizers had been brought up from Siboney with great difficulty, but the supply was ample to meet the great demand made upon it during the three-days' battle. The hospital staff under Major Wood, the Chief Surgeon, consisted of five surgeons, several hospital stewards, and a Hospital Corps company of about twenty-eight men, selected from the hospital corps of the different regiments comprising the 1st Division. Of these, thirteen men came from the hospital corps of the 71st Regiment, New York Volunteers. Three ambulances, with one or two wagons, completed the outfit. Early on the morning of July 1st everything was put in readiness for the battle that was about to take place, and shortly after nine o'clock the wounded began to arrive from the dressing-stations near the front, and from that time on, for the next two days, there was a constant stream of wounded men coming in from all directions to this one place for relief. The surgical force of the hospital went promptly to work and worked rapidly and skilfully to meet the demands made upon it, but it proved insufficient, and when toward night the fire at the front slackened, five additional surgeons were called in from the firing-line to assist, and yet in spite of all their efforts numbers of the wounded lay unattended for twelve and even twenty-four hours on the bare ground before their turn came. There was an insufficient supply of blankets and clothes due to the lack of transportation facilities.

In the matter of clothes it was very important, for the clothes of many of the soldiers were soaked with rain and stiffened with mud from the trenches, so that they had to be removed before an operation or dressing, and could not be put on again. The transportation of the wounded was another source of much concern to the medical officers. The litters belonging to the different regiments and those improvised from various articles, such as blankets, blouses, hammocks, etc., and the horses of the officers were all that could be relied upon to remove the wounded from the battle-field. Men with desperate wounds had to walk or crawl a mile, or perhaps five or six miles from the village of El Caney, or the San Juan Hills, back to the field-hospital at Playa del Este, over a wild, rough country where trails were rendered almost impassable by daily rains and by the passage of pack-mule trains and heavy army wagons. It is not surprising that under all these circumstances the work of collecting and transporting the wounded should have been one of infinite difficulty. The great variety of wounds received during the battle of July 1st, on which day the majority of the casualties occurred, would have furnished a valuable addition to the annals of surgery could a complete record have been kept of all the cases. Men shot through the abdomen by the Mauser bullet were known to have walked four and five miles to the hospital and to have arrived there in good condition, with little or no shock, and to have recovered apparently with but little disturbance in the way of pain and without the necessity of resorting to an operation.

There were several instances to my knowledge of men who received wounds from the Mauser bullet that passed directly through the liver and kidney, and yet these men thus wounded suffered but little inconvenience and have apparently showed no bad results, though what may occur in the future is still uncertain. Another point of interest was that a Mauser bullet was apt to be explosive in its action when it struck a man at short range, and especially where a viscus, as the brain, or a joint was penetrated, and inflicted a wound similar to that made by the brass explosive bullet used by the Spanish Volunteers. At a greater range than 200 yards the Mauser bullet penetrated with but a small

wound of entrance and with a slightly larger wound of exit, and both decreased in size as the firing distance was lengthened. If beyond this distance bones were injured there was always more or less comminution and the wound of exit was a trifle larger, due to the laceration of the soft parts from splinters of bone. There were some cases in which the shaft of a long bone was fractured by a Mauser bullet passing through it, with but little splintering and a clean perforation. There were several instances in which the Mauser bullet passed through the skull and out again, causing no apparent injury to the brain and the patients returned to duty in a few days with the wound entirely healed. In another instance, at short range, a young man was shot in the head by a sharpshooter and the result was similar to that caused by the explosive bullet. This explosive bullet is composed of soft lead with a brass coating, and on impact explodes, leaving a ghastly wound. It was used by the Spanish Volunteers, as has been already mentioned, who fired it in the old Springfield rifles, and who, in order to make the action more deadly, would chew the end or cut small gashes in it with a knife, so as to insure its exploding if it came in contact with any obstacle. Its passage through the air was accompanied by a peculiar humming sound, ending in a short, sharp pop, as it burst and scattered fragments of lead in the air. The existence of this bullet was denied by many officers, but the effects have been observed under circumstances that left no room for doubt.

There were but few amputations and these were performed only when a main artery had been severed or a limb mangled by shrapnel. The simplest antiseptics were found to act best in dressing such cases and iodoform was almost entirely abandoned, owing to the fact that its use in the tropics was observed to cause irritation to the skin and that it was too readily absorbed by the exposed surfaces. In dressing small wounds collodion was much used. Laparotomies were performed in several cases and I believe were fatal in almost every instance. Nearly every officer and man in the regular service was provided with a first-aid packet, which proved of great value in rendering first aid to the injured, and many of the Hospital-Corps men carried haversacks filled with these packets, which they distributed along the firing line. The Volunteers were not well supplied with these and did not appreciate the great value of these packets and would often throw them away or use them for some other purpose entirely foreign to that intended. The dressing-stations near the firing-line were devoted entirely to the application of temporary dressings, the arrest of hemorrhage, and the setting of fractures, which was necessary in quite a number of cases, and much ingenuity was displayed in the dressing of these cases of fracture. Several bad compound fractures of the thigh were received at the field-hospital and these were dressed under the most careful antiseptic precautions and put up in plaster of Paris and sent by ambulance to Siboney for transportation to the United States.

The number of killed during this campaign is estimated at about 280 and wounded at about 1400. But a small proportion of those wounded (65 in all) died of their wounds and but a small number have required much additional care since their return to the United States.

The Medical Department of the army in Cuba, in spite of all obstacles in the way of scarcity of rations, difficulty in procuring proper transportation and supplies, met the emergencies as they arose and in the whole army there was none deserving of more praise than those members of the Medical Department, who risked everything in the discharge of their duty. Passing along the line of fire, being exposed at all times to the bullets of the enemy in front, and the more deadly and continuous fire of the sharpshooters on the flanks, the Geneva cross of each medical officer and Hospital-Corps man was a tempting mark which they never failed to take advantage of, as the murder of young Dr. Dantforth shows. This officer was shot down in front of a dressing station in the rear of the firing-line, and it is satisfactory to note that the sharpshooter who killed him met the same fate a few moments later.

PHYSICAL CONDITION OF THE FIRST UNITED STATES CAVALRY (ROUGH RIDERS) AT DATE OF MUSTERING OUT.

BY FRANK DONALDSON, M.D.,
ASSISTANT SURGEON, FIRST VOLUNTEER CAVALRY.

IT is difficult to judge at this time just what will be the outcome of the work of the Army Investigation Committee in Washington, but one fact has been emphasized by a number of witnesses before it, to wit, that the condition of the camps and of the men of the volunteer regiments, apparently without exception, left much to be desired. The blame in each case has been put upon the officers and the surgeons who failed to compel compliance with the more ordinary rules of cleanliness and health. Without criticizing the camps of other volunteer regiments which I have seen it may be interesting for medical men to know that up to date there has been no fault found with the condition of the camp or troopers of the First Volunteer Cavalry. Though the men

suffered terribly in Cuba from fever, dysentery, and serious stomach and intestinal troubles, no regiment came back in better shape, with the possible exception of the Ninth and Tenth Negro Cavalry Regiments.

In Cuba, of course, we were able to give the sick men anything but satisfactory care owing to an almost total lack of a hospital outfit; and in view of our experience both in Cuba and at Montauk I cannot but sincerely trust that the Surgeon-General will see fit to return to the old system of regimental hospitals. Many of our men in Cuba should have been treated in a well-equipped regimental hospital, but the division hospital was five miles away and it was practically impossible to send the men there against their will. They preferred to suffer and be among their own comrades at the front.

I wrote a long letter last spring to the *Philadelphia Medical Journal*, after some days spent with Dr. Girard at Camp Alger, in which I conclusively proved (?) that regimental hospitals should be done away with; experience has taught me that I did not know what I was talking about. I am sure to-day that had we had a proper hospital outfit in Cuba we would have saved much suffering and probably several lives. What we called a hospital was a large fly under which we put the men. We had no cots, insufficient supply of blankets and no rubber covering beyond the miserable government poncho which never protected any one from anything, certainly not from rain. The troopers, however, did have rather more and better food than most of the regiments. Thanks to Colonel Roosevelt's unceasing thoughtfulness for the men and his delightful contempt for red-tape where their needs were concerned, we were enabled to "rustle" quantities of food and stimulants. His private purse was always open and he often told me to stop at no expense in getting supplies of all kinds.

As I said, the regiment returned in excellent condition and with his permission we immediately established the despised regimental hospital. Here in the course of four weeks we treated upward of two hundred men and had the satisfaction of sending many of them back to their troops in fairly good shape. An interesting fact in connection with the low form of malaria with which most of those treated were afflicted and the stomach and intestinal trouble accompanying it, was that quinin, without any exception, brought on severe vomiting; and it may seem strange that in four weeks I did not personally give twenty grains of quinin. I did not have the proper preparation for hypodermic use, and should have hesitated to use it in any event. In many the vitality was so low and the circulation so sluggish that even a few minims of morphin given with an antiseptic syringe frequently lit up a subacute inflammation, and I am sure that the combination of quinin and urea would have caused troublesome abscesses. My efforts were directed toward getting their stomachs and digestive apparatus in working condition, and with this purpose in view they were fed frequently with small amounts of delicate nutriments. I used sherry and egg, port wine, milk punches, champagne, and other stimulants with absolute freedom. It should be remembered that most of these men had been for several months, while at Tampa and in Cuba, taking from 30 to 60 grains of quinin a day, and six out of ten men who came to the hospital were suffering from partial deafness, and all from more or less constant nausea and vomiting. I can give no better proof of the care which Colonel Roosevelt demanded for his men and which they received than the fact that there were only thirty men who were really too sick to come to Montauk to be mustered out. I make this statement advisedly, for I have a complete list of those who were not on hand when we finally broke camp. The actual number which did not come to be mustered out was 103, many of these, however, though physically able to get back, were delayed in returning from various causes. From the men not seen personally I have received letters regarding their condition, and after carefully examining my notes I am safe in making this statement. Of these thirty only twenty were ill, and at the present writing we have but four men seriously sick; these four with typhoid fever. This record is a source of considerable pride to us, for surely thirty ill men out of a regiment of 1200 speaks eloquently for the care which they have received.

As I said before, we could not have obtained this result had it not been for Colonel Roosevelt's constant help, moral and financial, and I can truthfully say that it is to his unselfish devotion, unceasing oversight and personal interest in every man, that this volunteer regiment has come out in such good shape. Moreover, his interest did not cease with the breaking up at Montauk. Acting under his orders the condition and position of every man, sick or in need, has been looked into by me and their necessities provided for. Of course, I do not mean to say that there were not men mustered out who were more or less sick; a number of them still have certain stomach and intestinal trouble, and occasional fever.

Its a curious fact that out of a certain series of eighty men whom I examined for mustering out, seventy-four had either enlarged livers or spleens. Another curious fact is that in three cases I found,

the men complained of a gradually failing eyesight, and on questioning them it appeared that the trouble began after they had been for four or five weeks at Tampa. None of the three men of whom I speak had been to Cuba. They were not suffering from any kidney trouble, nor had they had a sunstroke. In two of the patients, while they could distinguish objects, their eyesight for reading had failed completely. These two had been treated by experts in New York, and told me that they could then with effort read ordinary type and that their eyesight was gradually improving. The third soldier told me that he had gotten no better, and the specialist feared his eyesight was permanently gone. An instance of apparent transmission of the Cuban fever by infection from a fly-bite occurred after we were mustered out. A lady who was helping me nurse in the regimental hospital was taken a few days later with what proved to be a typical case of Cuban fever. I was absolutely at a loss to account for it. She had been perfectly well, had not been in a malarious district, and spent the summer in the North. During several days while at Camp Wikoff we had a terrible visitation of flies and the men in the hospital complained that their bite frequently drew blood and on several occasions the lady called my attention to the fact that blood had followed the bite of one of the flies. She is now in a hospital and the disease is running a typical course.

ADDRESS.

CORNELL UNIVERSITY MEDICAL COLLEGE.[1]

By WM. M. POLK, M.D.,
OF NEW YORK;
DEAN AND DIRECTOR.

There is a divinity which shapes our ends, rough hew them as we may.

HEREIN lies the explanation of the success which has attended the conception and creation of this medical school, and we who have been the instruments employed have but one feeling, an all-pervading feeling, especially on this the opening occasion of our educational work; and this is a deep sense of our responsibilities to our benefactor, our University, and to you. It might be supposed that the distinction, which these factors in our existence have bestowed upon us, would create an elation which would warrant a desire for the triumphal car and its attendant glories, but I know, that so far from this being the state of our minds, a spirit of seriousness possesses us, in keeping with renewed effort rather than effort accomplished. It is evident that this argues well for the execution of the trust placed in our hands.

In this wonderful country of ours a considerable number of men has been produced who through the exercise of natural powers upon the opportunities before them have acquired the means wherewith to bestow munificent gifts. With the thousands of impecunious enterprises continuously projected, it is evident that these men are never free from solicitation to contribute to this, patronize that, or endow the other. Hence it is scarcely to be wondered at, that more than the ordinary discrimination is needed to avoid bestowal in wrong direction and apply it in the right. When, therefore, after proper inquiry and deliberation, such a bestowal is made, it carries with it the obligation that the recipient shall in all things live up to the expectation of the benefactor. In the construction of any undertaking ideals may be priceless, and they are priceless if they personify the highest, installed upon a basis of common sense. Such ideals contribute working formulæ, and can, therefore, be readily used in promoting an undertaking; and the greatest good fortune attends upon the enterprise which possesses such an ideal and has at hand the means with which to reach toward it. It is doubly fortunate if, with the means, come hand in hand the ideal. You know we have the means, and infer we have the ideal, but you do not know that the same hand which bestowed the means unconsciously brought with it the ideal. For this gift was in reality a protest against intrigue and deception, and a proof that faithfulness is as essential to lasting success in the great things of life as in the smallest. And yet this was not all. It was not enough to give us this ideal, but a place in which to exercise and develop it in all its bearings was also given in putting us within the folds of a great university.

If you will go with me to the town of Ithaca you will there see grouped upon the hills overlooking the head of one of the most extensive and beautiful of the many lakes peculiar to the interior of this State, a wonderful sight: A great university, the result of thirty years of growth. And, questioning as to the source of such a development, we find the answer in the words of its distinguished President: "It lies in its 'constitutive idea.' Every college and university is an organ of the highest knowledge. Its function is the consecration of liberal culture. This was the accepted view held a generation ago, and it was deemed sufficient. Cornell University went further. It associated practical education with liberal. It ranked professional training among its functions, and it enlarged the notion of learned or scientific professions so as to include, along with the traditional trio of law, medicine, theology, whatever calling rests on science or scholarship." In the words of its founder, it is an institution "where any person can find instruction in any study." "Hospitable to all the learned and scientific vocations of modern times, it yet, at the same time, enlarges the conception of liberal culture so as to give the sciences of nature and the modern humanities a place beside the ancient discipline of Greek, Latin, and mathematics."

The eminently American character of the University is clearly defined in its democracy of liberal and scientific schools, and the vigor which characterizes its administration is perpetuated in the love and loyalty of its large classes, and the marvelous *esprit de corps* of its numerous and influential alumni. This is the inheritance we

[1] Delivered at the opening exercises of the College, October 4, 1898.

have been bidden to share, and in taking our place, do so with a deep determination to lend our minds and bodies to the fulfilment of its ideals.

As has been said, an essential part of this ideal is the practical, and herein lies the core of what we deem our duty to you, the students.

At the risk of wearying you with repetition of what you have already learned from our circular of information, I must say something of the manner in which we propose to meet the demand for the practical in your instruction. After a good many years devoted to medical education, we have arrived at the conviction that clinical demonstration upon a broad basis of laboratory instruction is the only way in which to prepare students for the degree of Doctor of Medicine. This has been forcibly borne in upon all undergraduate teachers by the universal demand for post-graduate instruction in details, without which a graduate is in reality unfitted for the practice of this profession. The first question that had to be answered related to the disposition of the didactic teaching, that part of the course which offered the preliminary knowledge of the theory of medicine as an introduction to the practical. After no small amount of labor and experimentation we reached the conclusion that recitation from text-books, conducted under the direction of a trained corps of competent instructors, afforded a better basis of theory than the didactic lecture. This arrangement had also another advantage of even greater merit, in that it freed the older and more experienced teacher, so that he could give his time to the practical or clinical demonstration of the theory. To do this properly, it was evident that he must have more time and opportunity than the so-called clinic of the amphitheater afforded. This could only be found in closer and more frequent contact between the student and patient than was possible at such clinics; hence, the plan finally adopted, namely, to break up the classes into small sections, and scatter such sections through the wards of hospitals and dispensaries, each under the guidance of a trained clinician, whose object would be less the display of his own learning than the eliciting of the student's knowledge, with a view to its correction and enlargement. Given then this broad basis of laboratory instruction, text-book drilling with clinical demonstration, superimposed and presented to such small sections as will insure the direct impress of teacher upon each student, we feel we have advanced a long way toward securing the best instruction that can possibly be presented to the medical undergraduate of to-day. To fully meet the demands of such a system, it is evident that patients are a necessity. The hospitals to which we have access, though many and large, by no means meet the requirements. This can only come from the control of a large outdoor or walking clinic.

For many years those of us who believed in this method of conducting medical education, dreamed of a college building which would be a large dispensary, surrounding and enveloping a medical school; a dispensary in which beside space for consultation with patients with every conceivable disorder, there should be close at hand space for the accommodation of students who could thus have ready access to every opportunity for demonstration. With room for each department to conduct its own clinical microscopy, one or more large lecture-halls for such lines of teaching as might still require didactics; museums filled with every required model or specimen needed for demonstration; work-rooms for every kind of teaching for which the cadaver may be required; space where all that pertains to physiology may be unfolded, and rooms for chemistry, to show not only what pertains to the inorganic of medicine, but all that is known or can be known upon the subject of animal or physiological chemistry.

This was our dream, and now when we awake and find this dream practically a reality—when we see rising before us all that our imagination so long pictured, and look back upon the years so vexatiously spent in making brick without the straw—we enter, as few have entered, into the feeling of the people of Israel as they turned their eyes to the land which Joshua and Caleb had told them of. And in a spirit of deep appreciation we begin here our part in the completion of the edifice which typifies the spirit and the body of our University.

With imposing presence it lifts itself upon its bed of rock, suggestive of some vast cathedral. We see its minarets, its spires and towers reaching heavenward, each marking the position of some component part or school, and telling in degree the sum of effort and perfection put forth and attained by each. Moving amidst its massive pillars and beneath its solemn arches, student and teacher alike approach its altar, and there find the visible presence of that sacred spirit of amity, unity, loyalty, and friendship which touches every soul that enters within its portals. Upon and within this stately edifice our place as yet is scarcely more than indicated. But filled with the spirit of that loyal faith given us in the example of our benefactor, imbued with the power of that high-souled aggression characterizing our University, and strong in the force of our own purpose, we engage to build for you as fair, as firm, as grand a spire as ever reared its head toward heaven. Faithful, aggressive, strong, we one and all pledge you our best and ever-increasing effort.

MEDICAL PROGRESS.

Epidemic Jaundice.—Pomeroy (*Boston Med. and Surg. Jour.*, August 4, 1898) gives an account of an epidemic of jaundice which existed in Calumet, Mich., and its vicinity from June, 1897, to January, 1898. In all there were about 695 cases of catarrhal cholangio-itis, in a population of about thirty thousand. No satisfactory etiology could be made out. To a certain degree the disease was regarded as a contagious, specific infection by the physicians in the vicinity, independent of temperature and drinking-water, and slightly, if at all, influenced by locality. The presence of several patients in a house seemed to concentrate the poison, so that invariably the last of the members of a family to fall sick had the severest symptoms. In no instance did every member of the family fall ill. Almost all of the patients were children from

three months of age and upward, only thirty adults being affected. In children the first thing for which a doctor was summoned was the discoloration of the skin; while in the adults the jaundice was preceded for several days by pain similar to that caused by the passage of gall-stones, though very much milder in degree. All of the patients attacked recovered and so there were no autopsies to establish the exact condition of the organs, and the most painstaking examinations of the blood, urine, feces, sputum, and gastric contents yielded only negative results. There was anorexia and a little vomiting occasionally, but gastro-intestinal symptoms were not generally present. There was a degree or two of fever for a brief period. The treatment employed was the giving of an anodyn, and a mercurial or saline purge. Afterward the phosphate of soda was given until the stools were of normal color and the bile salts had disappeared from the urine. For the itching the subcutaneous injection of $\frac{1}{20}$ to $\frac{1}{4}$ of a grain of the muriate of pilocarpin daily, gave the best results.

One curious feature of this epidemic of catarrhal cholangio-itis was the simultaneous occurrence of an unprecedentedly large number of cases of cholelithiasis. In one day the writer was called upon to treat four women in attacks of gall-stone colic, and the diagnosis was confirmed in three of these four cases by the passage of gall-stones in the stools.

Excision of Tubercular Cecum.—LEDIARD (*Lancet*, August 13, 1898) reports the case of a man, aged sixty-three years, upon whom he twice operated, once for an abscess to the right of the umbilicus, and once for the sinus which followed lancing of this abscess, and which discharged pus and occasionally fecal matter. When the sinus was exposed it was found to lead to the cavity of the cecum, and that organ was so badly riddled with tuberculosis that it was removed. The ascending colon was closed by suture, and the ileum was allowed to open externally as the condition of the patient did not warrant prolonging the operation sufficiently to unite these two portions of the bowel. The patient survived the operation two months, when he succumbed to pulmonary and cardiac trouble. This case is interesting from the fact that malignant disease of the cecum is usually cancerous rather than tuberculous.

Diabetic Coma Successfully Treated by Saline Infusion.—OLIVER (*Lancet*, August 13, 1898) was called upon to treat a man, aged thirty years, who had been suffering from diabetes for nine months. He was apparently improving when diabetic coma developed during a short railway journey. While still in a comatose condition two and one-half pints of saline solution was injected into the median basilic vein, and an active purge was given. Consciousness gradually returned and persisted until the time of report twenty-eight days later. For three days after the transfusion the patient passed a very small quantity of urine, about 21 ounces, instead of 140 to 200 ounces as he had been doing. After three days, however, the quantity rapidly increased until it reached 190 ounces daily. The advantages of even a temporary restoration of consciousness in persons, for example, who have business affairs to settle before death, is too plain to need amplification.

THERAPEUTIC NOTES.

The Production of Abortion by Nitrate of Silver.—PERLSEE (*Prague Med. Wochenschr.*, July 21, 1898) was called upon to bring about miscarriage in four cases of pregnancy complicated by nephritis and uncontrollable vomiting. He did this most successfully by the introduction of a stick of nitrate of silver above the inner os uteri. The stick should project about one-half inch from the holder so as to disinfect the cervical canal as it is introduced. Pains came on in from two to six hours after the cauterization. In every respect the delivery in the four cases was as perfect as could be wished for. The operation has the merit of simplicity, promptness, efficiency, and is aseptic.

Prolapse of the Omentum after Hysterectomy Cured by Posture.—FRANKEL (*Rev. de Thera.*, August 1, 1898) removed by the vaginal operation a myomatous uterus. The omentum appeared in the wound and was pushed up and held in place by an iodoform tampon. The following day there were some symptoms of intestinal obstruction and the tampon was therefore removed. It dragged out with it as far as the surface of the vulva the greater omentum. Not wishing to touch the omentum with any instrument at hand the operator put the patient in the knee-chest position and in a few minutes the omentum was restored to the abdominal cavity by the force of gravity. The patient made a good recovery. The success of this simple maneuver is worth remembering.

Suppurative Peritonitis Treated by Rectal Incision.—MOLIN (*Gaz. Heb. de Med. et de Chir.*, July 21, 1898) cites four cases of acute peritonitis with a collection of pus in the pelvis in which the abscess cavity was opened by a rectal incision. In every case relief was prompt and satisfactory. Three of the patients recovered without fistula. The fourth succumbed to an extension upward of his peritonitis. Rectal incision has been almost unanimously condemned by writers upon this subject. Delbet says that the drainage is very imperfect and often conducts fecal matter into the pelvis. Vauverts says that rectal incision is only a bad makeshift to which one ought not to resort unless the abscess is about to break into the rectum. These opinions scarcely accord with the results of spontaneous rupture into the rectum, for this termination is justly considered most happy, since it is almost invariably followed by recovery. Some authors state that fistulous tracts are apt to remain, inflaming the rectum and giving rise to new abscesses. The writer considers that these dangers are exaggerated and strongly advocates this method in suitable cases because of its simplicity and because it reduces to a minimum the shock of operation. This is a most important point, since many of these patients are extremely feeble.

The Medical News.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK.

Subscription Price, including postage in U. S. and Canada.

PER ANNUM IN ADVANCE	$4.00
SINGLE COPIES	.10
WITH THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, PER ANNUM	7.50

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LEA BROTHERS & CO.,
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SATURDAY, OCTOBER 15, 1898.

HOSPITAL REPORTS.

We had occasion a few weeks ago to refer to the scientific and didactic value of systematic reports of actual hospital work. The opinion then expressed as to the worth of such publications, is strengthened by the perusal of the medical and surgical reports of the Boston City Hospital. The present volume, the ninth in the series, is edited by Drs. Charles F. Folsom, W. T. Councilman, and Herbert L. Burrell, and is not only an excellent *résumé* of the work of the hospital during the past year, but is also of high literary and scientific worth.

Merely to illustrate the contents of the volume, a few articles will be singled out: "A Clinical Study of Eight Hundred Cases of Diphtheria," "Acute Degeneration of the Nervous System in Diphtheria," "Seventy-one Cases of Cerebro-spinal Meningitis," "The Local Anesthetics Used in the Eye," "Endocarditis from Gonorrhea," "A Report of a Case of Appendicitis, Showing the Relation of the Colon Bacillus and the Streptococcus Pyogenes as Etiological Factors." There are, also, reports from the Pathological Laboratory and clinical data of interesting cases. On the whole, the report shows the value of systematic endeavor in the study of patients in hospital services and what is thus gained by those under whose observation the patients have been, is shared by all who will read this record.

A signicant article is that of Dr. Burrell on "The New Surgical Services." Briefly outlined, it is a sketch of a scheme inaugurated by the trustees of the hospital for the employment of young men in the wards and for the retirement of the older surgeons to the rank of consultants. There are first, second, and third assistants, drawn from the hospital's dispensary, each of whom sees a certain amount of service in the operating-room and wards of the hospital under certain rules and restrictions. How well this redounds to the welfare of the surgical service is at once evident. Moreover, the younger men will acquire in the course of a few years, an immense experience, while they will not be obliged to wait until they are gray-headed before the privilege of operating in a hospital comes to them with its attendant responsibility. This project is new, but in every way commendable. We suggest the consideration of its features to the directors of some metropolitan hospitals, whose wards might be the gainers by the infusion of the blood of young men into their surgical services.

THE WORLD'S FOOD-SUPPLY.

IN latter years it has become the fashion for the President of the British Association for the Advancement of Science to make public in his Presidential Address some discovery of great scientific importance or to startle the thinking world with glimpses into the stores of the future. Sir William Crookes in his address before the Congress in Bristol a few weeks ago maintained the custom which his illustrious predecessors had established, by setting forth in great detail a stupendous mass of apparently incontrovertible statistics to show that all civilized nations stand in deadly peril of not having enough to eat, and this within thirty years. To all others than the rabid Socialist who hails the fulfilment of this prophesy as a solution of the destiny of the plutocrat, this information would be very depressing were it not that the illustrious forecaster points a way out of the collossal dilemma which has been unwittingly thrust upon us, and this by the utilization of the laboratory. Before we are in the grip of actual dearth, the

chemist will step in and postpone the day of famine to so distant a period that we, and our sons, and our grandsons may legitimately live without undue solicitude for the mortal future.

After full consideration of the wheat-growing lands of the world, Sir William points out that face to face with deficient acreage we must increase wheat-growing acre-capacity by the application of a "dominant" manure, which for wheat is nitrogen, fixed in the form of ammonia or nitric acid. The sources of available nitrogen are several: (1) From sulphate of ammonia which results from the distillation of coal in the process of gas-making, a comparatively inconsequential source. (2) From leguminous plants which bear on their roots nodosities abounding in bacteria endowed with the properties of fixing atmospheric nitrogen, also an insufficient source. (3) From the treasure of nitrogen locked up in the sewage and drainage of towns, an important source, but which at the present time is almost absolutely unutilized. (4) From nitrate of soda, or Chili saltpeter, which occurs in its native form over a narrow band of the plain of Tamarugal. This has been considered an inexhaustible source, but recent careful investigations would seem to point that this nitrogenous manure will be exhausted, at least in its present proportion of nitrate, in from twenty to thirty years.

The gleam of light amid the darkness of despondency lies in the conversion of nitrogen in its free state, which is one of the most abundant and prevailing bodies on the face of the earth, into nitrogen in a fixed state, which wheat demands. The fixation of atmospheric nitrogen, therefore, is, in brief, the solution of the problem which is so vital to the progress of civilized humanity. The agency, or force, which is to be the handmaid of this momentous transformation, is that which has already more than revolutionized the face of the scientific world, namely, electricity. A few years ago Sir William Crookes showed that nitrogen is a combustible gas, and the reason why, when once ignited, the flames do not spread through the atmosphere and deluge the world in a sea of nitric acid, is that its igniting point is higher than the temperature of its flame; not, therefore, hot enough to set fire to the adjacent mixture. But by passing a strong induction current the air takes fire and continues to burn with a powerful flame, producing nitrous and nitric acid. This source of nitrogen is inexhaustible, but the difficulty arises in generating electricity in the ordinary way, with steam engines and dynamos, that will convert it. To encompass this difficulty, the scientific utilitarian must harness Nature's inexhaustible sources of energy, the waterfalls of the world, such as has already been done with Niagara. It is estimated that by the utilization of the electricity now generated at Niagara, nitrate of soda would cost about $25 per ton, which compares very favorably with Chili nitrate at $37 per ton.

ECHOES AND NEWS.

Another Bellevue Hospital Appointment.—Among the new appointments made by Commissioner Keller to the Visiting Staff of Bellevue Hospital is that of Dr. Charles H. Chetwood as Visiting Surgeon.

Sickness in Porto Rico.—It is reported that 2500 soldiers are sick in Porto Rica, but in most cases their condition is not serious. Field hospitals are being erected as rapidly as possible, and the sick transferred to them with very favorable results.

Smallpox at Manila.—Reports from Manila, dated October 6th state that there had been fourteen cases of smallpox and six deaths from that disease among the American troops in the last two days. Eight deaths from typhoid fever have also been recorded.

Smallpox in Ohio.—It is now officially declared by the State Board of Health of Ohio that more than 200 cases of smallpox have occurred at Wapakoneta, and have been treated as chicken-pox. The disease is of a very mild type, and no deaths have occurred, to which is due the mistake in diagnosis. Rigid measures are being taken to eradicate it.

Harlem Medical Association.—At the meeting of the Association Monday evening, October 10th, the paper of the evening, "The Differential Diagnosis between Early Abortion and Ectopic Pregnancy," was presented by Dr. H. N. Vineberg. A Memorial of Dr. Philip Arthur Malleson, the former President of the Society, who died recently, was read by Dr. Wm. Westerfield.

Insanity on the Transport "Obdam."—The mishap to the transport "Obdam" from fire in her coal-bunkers necessitating her return to Santiago seems to have had a serious effect on the 240 convalescents on board. Three cases of insanity have already developed and it is feared that the disappointment caused by turning back may, owing to the weakened condition of the men, similarly affect others.

Improvement in Transportation.—The arrival of the transports "Panama" and "Missouri" from Ponce and other Porto-Rican ports, with 190 and 269 men, respectively,

shows a marked improvement in the transportation of the sick and wounded over those which conveyed the troops to Montauk. It demonstrates what can be done when sufficient care and effort are put forth. The condition of the ships was beyond reproach. Everything was neat and clean aboard them, and the men received proper care from the nurses and surgeons aboard.

American Academy of Railway Surgeons.—The following officers were elected for the ensuing year: President, Dr. W. W. Grant, Denver; first vice-president, Dr. J. F. Pritchard, Manitowoc, Wisconsin; second vice-president, Dr. J. P. Lord, Omaha, Nebraska; secretary, Dr. T. B. Lacy, Council Bluffs, Iowa; treasurer, Dr. C. B. Kibler, Corry, Pennsylvania; editor, Dr. Fred. J. Hodges, Ashland, Wisconsin. Place for holding the next meeting, Omaha, Nebraska, Obtober, 1899. Committee of Arrangements—Dr. J. P. Lord, Chairman; Drs. T. B. Lacey and Fred. J. Hodges.

Our Troops at Santiago. — The general health of the American troops is now better than ever before. The recent heavy rains have done much for the health of the camps. There has been a slight increase of ordinary fever, but all cases of yellow fever in the detention hospital are convalescent and practically ready to be discharged. The cooler weather is having an excellent effect on the sick. The troops stationed at San Luis have benefited greatly by a change of camps. General Ewers reports a reduction of sickness among his men from 700 to 30. The Second Immunes, at Altosongo, have only fifteen sick, with light attacks of malaria and dysentery.

Volunteer Surgical Talent for the Prince of Wales.—The Prince of Wales has been inundated with offers of assistance while he has been confined to his bed with a fracture of the patella. An equine bone-setter writing from a Park-Lane mews criticises the diagnosis of the surgeons in attendance. Three well-known peers urge his employment of some different persons "whose cures are marvelous," one recommending a Scotch gardener whose fingers are reputed to possess magnetic strength. An Irish Baronet is prepared to come immediately "to exert a something which has been in the family for years and cured my grandfather's game leg." A countess sent a bone which cured some family connection "by rubbing in a circular fashion over the weak spot," but the family treasure has been returned without a trial.

Yellow Fever in the South.—From the weekly report of the United States Marine Hospital Service, ending October 7th, it is apparent that yellow fever is steadily spreading in the States of Louisiana and Mississippi. Not only has there been an increase in the number of cases in the towns already infected, but new cases are steadily being discovered in neighboring towns and villages. The death-rate, however, continues very low, indicating the mild character of the disease. Unofficial accounts of a later date announce that nineteen counties in the State of Mississippi are infected and twenty-three cities and villages. Four interstate railroads have been obliged to suspend operations. The Mississippi State Board of Health has adopted the unwise course of advising all the citizens who can to leave the infected towns as the only method of escaping the fever.

Health of the Volunteer Camps.—Typhoid fever still continues its ravages at Camp Meade, Pa., several deaths from it having been reported during the past week. A number of cases have been sent to the Reading Hospital. The health of the New York troops is particularly bad, only 400 members of the 203d Regiment being reported fit for duty. More than half the men in the hospitals are homesick, but the surgeons say that after they have been home on thirty-days' furlough they will be all right. The food-supply according to Chief Quartermaster Howard has greatly improved. The rations are fresh and nutritious, and there is abundant supply. The men make no complaints about their food, but a large majority of them are anxious to go home. At Lexington, Ky., out of 584 cases in the general hospital there are 220 cases of typhoid fever. At Fort Thomas the non-typhoid cases are being transferred to the regular army hospital in order to lighten the hospital work sufficiently to allow the regimental surgeons and nurses to return to their regiments. At Camp Wikoff only 28 patients, all typhoid cases, remain in the general hospital. They will be transferred to New York and Brooklyn hospitals within a week. The railroad hospital for emergency cases, at Long Island City, was closed last week. The Red Cross Society has packed up its supplies and sent them to its headquarters in New York. The hospital corps and nurses, some 60 in number, will be retained until the government decides where to send them. The largest and most complete field-hospital in the world is to be erected at Montauk, L. I., about a mile from the site of the present general hospital. The buildings will be of brick and wood, and the plumbing and sewage will be complete. Work will be begun immediately.

The War Department's Reply to the Investigating Commission.—The Investigating Commission is not satisfied with the reply that Secretary Alger has made to its inquiries concerning neglect and incompetency in the management of the war. The answer has, therefore, been returned to the Secretary with a request for more detailed information. As an instance of the incompleteness of the replies, the question was asked, "Who had been influential in selecting the camp-sites?" The only answer given to this is that General Lee selected the camp at Jacksonville. No attempt seems to have been made to explain the causes of the hardships suffered by the soldiers at Tampa, before Santiago, or upon the transports. The Commission has busied itself the past week in considering reports of Adjutant-General Corbin, Surgeon-General Sternberg, and of the heads of other departments. Next week the Commission expects to make a tour of inspection of the various volunteer camps.

If Preventable, Why Not Prevented?—There can be little doubt that there is an intensified and gradually growing public interest in the campaign against "the white

plague," and it is gratifying to see that a portion of the secular press is lending its powerful support to the movement recently started by Sir Wm. Broadbent and a considerable number of the leading members of the medical profession in London, to take steps to check the continued prevalence of tuberculous disease in this country. The question is eminently one upon which an enlightened public opinion ought to be formed. The public mind must be aroused to the fact that consumption and other forms of tubercle are preventable diseases. "If preventable, why not prevented?" as the Prince of Wales said on a memorable occasion. A public meeting will be held early in October. At this meeting the formation of an association for the prevention of tuberculosis on lines similar to those of the associations which are doing such good work in France and Belgium will be proposed, and other means will be concerted for placing sufferers from pulmonary consumption in its early stages under the most favorable conditions for recovery.—*British Medical Journal.*

The Navy's Loss in the War.—The total loss in the navy in killed and wounded in all the engagements of the Spanish War is eighty-four men, of whom seventeen were killed and sixty-seven wounded. In the naval engagement at Manila one man was killed and nine wounded, all of the latter returning promptly to duty. In the battle with Cervera's fleet at Santiago July 3d, one man was killed and ten wounded, all the wounded returning to duty. In the attack on the Santiago forts June 22d, one man was killed and eleven wounded, seven of whom returned to duty. The heaviest loss of the navy was at Guantanamo. There were twenty-two casualties in that 100-hour fight, six were killed, and of the sixteen wounded men nine returned to duty, three were invalided from the service, and four continue under treatment. At Cienfuegos one was killed, one died from wounds, and ten were wounded, nine of whom returned to duty. At Cadenas the torpedo-boat "Winslow" and the gunboat "Hudson" lost five men killed and three wounded, all the latter returning to duty. In the bombardment of San Juan one man was killed and seven wounded, six of whom returned to duty. There were four other casualties in as many separate engagements. Considering results obtained, this list is said to be the most remarkable in the naval history of the world.

The Navy's Medical Corps.—The annual report of the Surgeon-General of the Navy, W. K. Van Reypen, has been submitted for publication. The medical department, like all the other departments of the Navy, displayed rare good judgment and foresight in preparing in advance for every emergency. When the "Maine" was destroyed preparations were begun immediately for every contingency. The hospitals were fully occupied, plans were prepared for pavillion wards, and the naval laboratory was put in a condition of efficiency to furnish medical and surgical supplies in any quantity. When war seemed imminent every vessel likely to be engaged was given a full outfit of medical supplies for war. In anticipation of a large increase of the navy proper outfits were prepared and boxed ready for call. The result was that there was not an instance during the war of any vessel being obliged to wait for her medical stores. It was known that the medical corps was inadequate in number for war, yet there was no law authorizing the employment of volunteer medical officers. Medical boards were sent out, however, in anticipation, to the principal cities to examine applicants for appointment. Consequently when war broke out the medical department had at hand from which to make selections of volunteer surgeons, a long list of well-educated men, and thirty-seven of these were appointed out of 2000 applicants. Surgeon-General Van Reypen says: "They have rendered efficient service, and have been a credit to the Navy. Some have had unusual and trying experiences, but they have accommodated themselves to their environments, and have justified their appointment." Only one medical officer was killed during the war, Assistant-Surgeon John Blair Gibbs, who fell at Guantanamo, serving with the Marine Battalion. The valuable services rendered by the hospital ship "Solace" is briefly set forth. Praise and credit are bestowed in this report upon the patriotic women who ably supplemented the efforts of the Government in contributing supplies for the sick and wounded. Most favorable mention is also made of the female nurses who volunteered their services and were assigned to duty in hospitals. The report concludes as follows: "I cannot close this portion of the Bureau's report without bearing testimony to the efficiency, skill, and devotion to duty of the personnel of the Medical Department. Not a word but of praise has the bureau heard of any of them—regulars or volunteers. When war was imminent they vied with one another in their efforts to get on fighting ships. Some had greater opportunities than others, but all have done well the work assigned to them. The medical officers of the vessels in the fight at Manilla and in the battle of the 3d of July shared the dangers of their comrades, and should participate in the praise accorded them. The medical officers of the 'Solace' have the honor of inaugurating the first complete system of antiseptic surgery at sea. They have adapted means to ends, have improvised apparatus, have been fertile in expedients, and have the satisfaction of having demonstrated that with skill and intelligence the percentage of mortality among the patients on a well-equipped ambulance-ship will be no greater than in the hospitals on shore. Medical Inspector Persons found himself suddenly confronted with 226 Spanish sick or wounded prisoners in a hastily established hospital. He was equal to the emergency, and he and his assistants were complimented by Admiral Cevera when he visited the camp. The medical officers of the other hospitals have had sudden large accessions of patients. They were always ready and always cared for them well."

For Chronic Sciatica the following stimulating liniment is recommended:

℞ Ol. terebinthinæ } aa . . . . . 3 vi
Ac. acetici }
Camphoræ . . . . . 3 ii.
M. Sig. External use.

CORRESPONDENCE.

COLORADO A NATIONAL HEALTH-RESORT.

[Extracts from a private letter to the Editor.]

DEAR DR. GOFFE:—It is a long time since you have heard from your consumptive friend out West, but that does not mean, I assure you, that you have been out of my mind. I am, indeed, very happy and thankful. I have now reached a weight that was never anticipated, 150 pounds! How's that for Colorado? I never felt so well as I do now; never knew before what it was to be a good animal, and that, in spite of the fact that I have had two slight hemorrhages this summer. At the time these occurred I was rather pleased than otherwise, for here, you know, experience has shown that if one must be a consumptive its much better to be classed as a hemorrhagic case. Though this town is the Mecca of so many hopes there is indeed an awful amount of sadness here. Many come to find in this grand climate restored health, and in consequence happiness, but there is an army of sufferers whose disease, being advanced, are beyond hope, and, though many such live longer here than elsewhere, still the fatal ending is none the less sure.

That this latter class should come here is of course all right when they are possessed of the necessary funds; but in the cases of so many "funds" means just enough money to get here, and, as privation is absolutely incompatible with the cure of consumption, getting here means to die far away from home and from one's friends and relatives. It's a great shame, indeed, that physicians persist in sending such cases here.

As there seems to be no end of money in the East for the building of unnecessary institutions, would it not be a glorious thing if some one would build here a great sanatorium, such as are found in Germany, where poor people with phthisis might be sent, some to find renewed health and usefulness, and others to go down gradually, easily, living longer than they could anywhere else? In view of the statistics which such an institution would furnish, there would be no place for the mountains of New York or for other Eastern sanatoria, and little for Southern California.

You may think that I am over enthusiastic with regard to the climate of the lower Rockies—the slope of the Sangre de Cristo, as the Spanish settlers called them—and this in view of my own recovery, but, I assure you, that could you personally interview the many "third stagers" that I have, people who have come here only after wasting that golden period, the first stage, in the health-resorts of the East, you would feel as I do. Doubtless many consumptives recover elsewhere (given the proper environment and not too degenerate a tissue, tuberculosis shows a natural tendency to cure), but it is my firm conviction that where one gets well in the East a hundred would recover here.

Just think a bit; on the slopes of the Rockies may be found all grades of humidity (except wetness), all grades of temperature and all grades of altitudes. What a natural sanatorium! The most suitable climate may be found for any given case and all within a radius of 1000 miles. The expense attendant upon comfortable living is the one great obstacle—which time, meaning practically increased population, and irrigation will remedy.

I honestly believe that most Eastern physicians are profoundly ignorant as to the health-resources of this great Western country. A department of climatology is a needed addition to most medical colleges. I know from my own experience that I had great difficulty in finding any one to tell me where to go. Why! As you know my physician in New York wanted to treat me by hydrotherapy. Think of it! Keep a man with consumption in that death-dealing climate when there is a Colorado—and treat him with cold water! With a humidity of from 60° to saturation I cannot understand why additional hydrotherapy is required in New York. Here I read, drive, smoke, sleep, and drink whisky and milk, and therein lies the cure of tuberculosis—with the possible exception of the smoking. I have been called into consultation quite a number of times (hanging around clinics in New York has some virtues after all), have operated successfully upon a floating kidney and an appendix, and the Lord willin' intend to hang out my shingle October 1st.

Sincerely yours,

——, M.D.

COLORADO SPRINGS, COLORADO, September 24, 1898.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

OPENING EXERCISES OF JEFFERSON MEDICAL COLLEGE AND OF THE MEDICO-CHIRURGICAL—MORE HOSPITAL TRAINS—HOSPITAL BEQUESTS—PERSONAL NOTES—PUERPERAL INFECTION—A CASE OF OSTEITIS AND A CASE OF INTESTINAL OBSTRUCTION.

PHILADELPHIA, October 12, 1898.

PRESIDENT WILLIAM POTTER inaugurated the seventy-fifth annual session of Jefferson Medical College last Monday evening, October 3d, in the hospital building. In a few brief remarks he commented on the power of young men, particularly evinced by the number barely out of their teens who were engaged in the war, and on the energy displayed by them in all branches of the service, a fact noted by him on his trip to Porto Rico on board the yacht "May."

Dr. Edward P. Davis followed with an address in which he urged students to learn "by educating the eye, the ear, and the hand, so as to study patients by reasoning and not by dead memory." He believes that among the lessons learned from the war is the necessity for medical men to enforce respect for their opinions, so that they cannot be disparaged by incompetent officials. In conclusion he said: "Men can well be proud of belonging to a nation which in 100 days put forward the dial of liberty 100 years, and it is well to be an American citizen."

The Medico-Chirurgical exercises were presided over by Dr. John V. Shoemaker, who spoke of the high percentage received by graduates of the school in competitive examinations, and of the increased facilities for

study. Dr. Seneca Egbert welcomed the students, spoke of an increased attendance and gave some practical hints as to the best methods of studying.

The 500 sick soldiers who were expected to arrive on hospital ships this week were finally sent to other ports, but as if to make up for this deficiency, three hospital trains were sent to Camp Meade bringing back nearly 200 men, most of whom had typhoid fever.

On Monday 49 men were brought by the Jefferson Hospital train which consisted of six cars, each arranged as a ward with its physician, head nurse, two assistant nurses and an orderly. The train was under the direction of Dr. Joseph S. Neff and Dr. H. A. Hare, having as assistants Drs. Loux, Salinger, Williams, and Wiggins, with a large corps of nurses, one of whom, chief dietician of the hospital, prepared all food and nourishment on the train.

The other trains were sent by the German Hospital, which brought back 60 men in charge of Dr. Carl Frese, and the Pennsylvania Hospital, which brought 72 men in charge of Dr. Robert Le Conte.

The following bequests are made in the will of Henry Pfander, which was admitted to probate last week: Jewish Hospital Association of Philadelphia, $2000; Jewish Maternity Association of Philadelphia, $1000; Jewish Foster Home and Orphan Asylum of Philadelphia, $2000.

By the will of Colonel Joseph M. Bennett a large amount of property is bequeathed to various institutions in this city, the University receiving nearly $500,000, which, it is directed, is to be used to further the co-education of men and women. Unfortunately, Colonel Bennett's daughter is to contest the will on the ground of undue influence and mental incapacity, and the estate may thus be tied up in litigation for some time.

Dr. George E. de Schweinitz has returned from the Adirondacks, where he spent September, Dr. J. William White, from a bicycling tour of Europe, and Dr. Joseph M. Leidy, from Narragansett. Dr. J. P. Bolton is acting Demonstrator of Chemistry at Jefferson, Dr. Jacob having left the city as a contract surgeon in the army.

Dame Rumor connected the name of Dr. Guiteras with the project of establishing a medical school in Cuba, but he has denied having any idea of severing his connection with the University.

Samuel Dickson, Joseph Harris, S. Weir Mitchell, M. D., Horace H. Furness, and J. G. Rosengarten have been appointed by the Trustees of the University of Pennsylvania a committee to arrange for a memorial meeting to Dr. Pepper. The American Philosophical Society, of which Dr. Pepper was vice-president, has taken similar steps.

"The Prevalence and Prevention of Puerperal Infection in Private Practice" was the title of a paper read by Dr. Shoemaker at the County Medical Society, September 28th. He thinks private practice has failed to keep abreast of institutions in lessening the mortality and described ideal obstetric conditions which can be partially obtained by the use of such simple means as a small scrubbing-brush, bichlorid solution, napkins which can be baked in an oven, and a cheap cotton suit to be worn by the physician. In the discussion Dr. R. C. Norris advocated the use of rubber gloves in septic cases.

Dr. Anna M. Fullerton spoke of the far-reaching effects of gonococci in a paper on "Gonorrhea of the Uterus and Its Appendages."

Dr. W. J. Taylor reported a case of "Intestinal Obstruction by a Band of Omentum," which occurred in a woman aged forty. Celiotomy was performed, a band encircling the intestine and passing through the mesentery was severed, and after the intestine had been opened and emptied of fecal matter, the wound was closed. Two years later obstruction occurred again, the intestine being caught under a band of adhesion.

"A Case of Osteitis Resulting in Circumscribed Suppuration or Abscess of the Lower End of the Tibia" was reported by Dr. J. Ewing Mears. This followed an injury and was variously treated until a skiagraph revealed the true trouble. An incision was made, a groove cut with the chisel, and later the curette was used, the patient making a good recovery. In the discussion Dr. Roberts suggested that relief was obtained by cutting through the periosteum and thus relieving tension. Dr. Barton, on the other hand, believes that the trouble in these cases is more deeply situated and most likely due to osteomyelitis.

MEDICAL MATTERS IN CINCINNATI.

[From a Special Correspondent.]

CINCINNATI, October 11, 1898.

THE Cincinnati Academy of Medicine held its first session of the season, September 26th, Dr. Louis Schwab in the chair. This being the regular evening for case reports and the presentation of specimens, Dr. B. F. Lyle reported a case of tubercular pericarditis and carcinoma of the stomach. Patient colored, aged forty-four; entered the hospital with symptoms of cough and expectoration, weakness, loss of appetite and dyspnea. A physical examination showed dulness in both apices anteriorly and posteriorly, and over the entire lower lobe on right side posteriorly, with bronchial breathing and sibilant râles over these areas. Temperature, 100° F.; pulse, 104; respiration, 36. The patient had lost forty-five pounds in weight, and progressively grew worse. Post-mortem [specimen presented] showed the pleuræ adherent to pericardial sac but slightly to costal pleura; pleural cavity on each side contained one pint of clear fluid. The pericardial sac was obliterated by a tubercular pericarditis, the tubercular tissue or infiltration being one-half an inch thick over the left ventricle and one-fourth of an inch thick over the right ventricle. Anterior and posterior mediastinum filled by tubercular glands. Lungs were infiltrated by a few small tubercles, the dulness being due to the mediastinal glands and infiltrated pericardium. There was a large fungus carcinoma in the pyloric end of the stomach. The omentum was rolled up and tubercular, and tubercles were present in other parts of the peritoneum. Dr. Lyle called especial attention to the meager symptoms, the confusing physical signs, the rarity of such

a specimen, and the absence of any symptoms that would lead to the diagnosis of such an advanced carcinoma of the stomach.

Dr. Magnus Tate reported a case of double pyosalpinx in which adhesions to the intestine were excessive. The main interest in the case attached to an accident during convalescence. Three days after operation the patient fell out of bed, suffered severe pain in the abdomen, and died in a few hours from peritonitis and shock. Dr. Tate stated that he had separated the intestine from the tumors very gently and felt certain that he left no opening into the bowel at the time of operation. Dr. C. A. L. Reed explained the accident by showing how, in these cases, the peritoneal coat may often be removed and the muscularis as well, leaving the mucosa intact. A slight force such as falling out of bed might easily cause a rupture in such a case.

Dr. Edwin Rickets presented an enterolith removed from the abscess cavity in a case of perforative appendicitis, which was peculiar in the fact that the pain began as a simple colic, and rapidly presented symptoms of intestinal obstruction with extreme distention of the intestine. The patient died of general peritonitis, even though an operation had promptly relieved the intestine of gas by puncture and the local condition in and around the appendix. Dr. Twitchell believes that it is always meddlesome surgery to operate in any case of appendicitis in the acme of the attack and that more patients die when operated upon at this time than if no operation is performed. He believes that most cases of colic are mild attacks of appendicitis dependent upon edema and increased peristalsis in the head of the colon and appendix and that the old practitioner's idea of a hypodermic of morphin to relieve the peristalsis and a saline purge to relieve the edema is the proper one for all cases of mild appendicitis. The only cases in which operation is justified are the recurrent ones, which are to be operated on in the interval, and the late cases which have formed a circumscribed abscess.

Dr. Reed raised serious objections to such a view of appendicitis and expressed a conviction that such principles would kill many patients if carried into the practice of surgery.

Dr. Ricketts also presented a gall-stone weighing 388 grains which he had removed from a patient who had suffered from one attack of pain in the region of the gall-bladder many years ago with no further disturbance in this region until the attack of repeated chills, fever, and sweat for which the patient was operated upon. The gall-bladder was full of pus and the patient died from sepsis. Attention was called to the absence of jaundice and biliary colic and the dictum formulated that all cases of biliary colic should be submitted to operative treatment.

Dr. Gustav Zinke also reported a case of empyema of the gall-bladder. His patient had suffered from biliary colic but at the time of operation was almost moribund from a septic condition of the gall-bladder. Operation resulted in the removal of a very large number of small gall-stones, the liberation of much pus and the recovery of the patient. Dr. Zinke stated that this was the first patient he had ever found it necessary to subject to operative treatment, having succeeded in relieving all others by the use of salicylic acid, bicarbonate of soda, and Carlsbad salts. He attributed his success by internal medication to a fortunate series of cases, yet believes that it does argue against Dr. Ricketts' principle of operating in every case of biliary colic.

Dr. M. L. Heidingsfeld reported a case of abscess of the prostate gland which ruptured primarily into the rectum, later into the urethra, and terminated in recovery.

Dr. S. E. Allen reported a case of middle-ear disease in which pain was intense and persistent yet there was no tenderness over the mastoid. A mastoid operation was performed after two weeks with no findings, but with absolute relief from the pain. The patient's temperature continued high, however, and in a few days metastatic abscesses presented in the left thigh, left arm, and right foot. These were opened, and after a long precarious illness the patient recovered.

The appointment of Dr. P. S. Conner as a member of the "Commission to Inquire into the Conduct of the War" appeals to the profession of Cincinnati as a most fitting choice. Dr. Conner is a man who experienced a very unusual service in the Civil War as a surgeon and as a director of hospitals. He is, therefore, entirely familiar with the exigencies of actual service and understands fully the difficulties and possibilities of the field hospital. His constant engagement in hospital work, since the war, at the Cincinnati and Good Samaritan Hospitals, increases the value of his opinion on matters of medical requirements and hospital management. Furthermore, he is a broad man of firm and fearless convictions, and complaints based upon sentiment alone will have no weight in his conclusions. The administration and the American people may feel a deep satisfaction in the appointment of a man whose integrity is unimpeachable.

The medical colleges open this week with the usual events of matriculation and introductory lectures. At the Medical College of Ohio a few changes are noted in the faculty and lecturers. Dr. Samuel Nickels, professor of materia medica and therapeutics, has resigned from active duty and has been made emeritus professor in this branch. Dr. B. Knox Rachford has been chosen by the faculty to fill his place, and Dr. Allyn C. Poole will be transferred from the chair of chemistry to fill that of Dr. Rachford, as professor of physiology. Dr. Stephen C. Ayres has been elected to fill the chair of professor of ophthalmology and otology. Dr. William H. Crane has been made lecturer on chemistry to fill the vacancy left by Dr. Poole. In the absence of Dr. Wolfstein, Dr. Horace J. Whitacre will lecture on pathology and will also conduct the laboratories in pathology.

The vital-statistics report of the board of health for August shows the total number of deaths to be 375, which is the lowest August mortality during five years. Mortality-rate per thousand 11.11. Among the infectious and contagious diseases reported there were: measles 13, diphtheria 16, scarlet fever 7, typhoid fever 26, phthisis 33, pertussis 14.

TRANSACTIONS OF FOREIGN SOCIETIES

Berlin.

NATURE AND CAUSES OF PERNICIOUS ANEMIA—COMPLETE FATTY METAMORPHOSIS OF A KIDNEY WHICH HAD CONTAINED A STONE FOR MANY YEARS—MYOSITIS PROGRESSIVA OSSIFICANS.

GRAWITZ discussed the difficult subject of anemia not due to external injury nor to disease of any organ at a meeting of the Huffeland Society, May 12th. The clinical picture of pernicious anemia is well known. At autopsy there is generally present a secondary degeneration of the cardiac and renal tissues, as well as of the glands of the stomach and intestine. In the majority of cases there is also a red, so-called lymphoid condition of the marrow of the long bones. The changes in the blood have been frequently described. The red cells become fewer and fewer, until they may number not more than half a million to the c.mm. Macro- and microcytes appear, and especially poikilocytes in great numbers, and nucleated red cells called megaloblasts. These changes of the blood are not confined to pernicious anemia, however, so they do not alone suffice for diagnosis, as do the changes in the blood in leukemia, for instance.

The physical conditions of the blood are not less important than its histological characteristics. If a quantity of it is drawn in a glass and allowed to coagulate the number of red blood-cells is visibly greatly diminished, while the proportion of serum is correspondingly increased. Sometimes as much as ninety per cent. of the contents of the glass after coagulation will be serum. This serum is essentially normal, so that the conclusion may be safely drawn that the disease is one of the cells and not of the fluids of the blood. In certain wasting diseases, on the other hand, such as tuberculosis or some gastric or intestinal affections, there is an atrophy of the blood, similar to that of the muscles, and under such circumstances there is a lack of albumin in the plasma as well as a diminution in the number of corpuscles. The fact that the cells of the blood retain their character in these diseases is probably because the disease exerts no especial influence upon the blood-making organs. These organs suffer from the general anemia, and as this progresses they fail more and more in the required quantity of the blood. In other wasting diseases the blood-producing organs are directly injured, and according to the intensity of this influence the constituents of the blood are altered in character. Such are repeated hemorrhages, anemia after severe infection, chronic suppuration, malaria, osteomyelitis, carcinoma, sarcoma, chronic diseases of the liver or kidney, etc. In marked instances of these diseases the histological examination of the blood may give the same results as in the case of pernicious anemia, but the plasma is very deficient in albumin, and not as that in pernicious anemia, essentially normal. The proof, therefore, is positive that in pernicious anemia there is a morbid alteration of the cells of the blood, and not simply a general marasmic condition. Unfortunately, however, this distinction is not marked with sufficient clearness in all cases to permit one to say from the blood examination alone whether a given case is one of pernicious or of secondary anemia. Far more valuable for differential diagnosis is the course of the disease. In secondary anemia the blood regains its normal character if the cause of the anemia can be removed, as after clearing the intestine of ankylostomata, or the extirpation of a pyloric cancer.

Although the etiology of pernicious anemia is still obscure, the following conditions have been considered to be of significance by different observers:

Long-continued disturbances of digestion leading to chronic catarrh of the stomach and intestine, and constipation.

Pregnancy was once considered an important etiological factor, but this view is not now so strongly adhered to. By pressing on the intestines, however, a pregnant uterus may increase digestive disturbances.

Repeated small hemorrhages in persons whose constitutions are not strong lead sooner or later to a condition in which the blood-building organs are unable to make good the losses, and the red cells reproduced are imperfect in quality and of insufficient quantity. Therefore the marasmic conditions grow constantly worse. In the light of the best evidence at present attainable this is the correct explanation for most of the cases of pernicious anemia.

Constitutional syphilis is also an important causative factor, not on account of the action of any virus, but because of the cicatricial changes produced by it in various organs, especially in the marrow of the bones.

Conditions affecting the general health, such as poor food, bad air, too frequent pregnancies, shock, and other nervous disturbances may also help the individual into a condition of pernicious anemia.

Chronic poisoning, especially with repeated small amounts of carbon monoxid, should also be mentioned.

There are, too, cases of anemia caused by the bothriocephalus and by the ankylostoma which do not disappear with the removal of these parasites.

One ought to be on his guard against the careless habit of calling all fatal cases of anemia "pernicious," and all cases which recover "simple" anemia.

At the Medical Society, July 20th, ZONDEK showed a preparation of a kidney which, owing to the presence of a stone for eleven years, had undergone complete fatty metamorphosis. The organ was, when removed, about twice the natural size, and nowhere was any parenchyma to be observed. The ureter was much enlarged and thickened, and the pelvis contained two stones. The symptoms at the time they were first noticed, eleven years before the nephrectomy was performed, were those of a stone in the kidney, with intense pain and fever, compelling the patient to remain about eight weeks in bed. Then for years there was very little trouble, but more recently the pains in the loin recurred with such severity as to lead to the operation indicated.

JACOBY showed a man, aged twenty years, who suffered for eight years with pains in his neck of a rheumatoid character, and which were followed by the calcification of these muscles. These had been in this condition

for four years. Later bony areas appeared in the masseters and in the muscles of the back. The clinical diagnosis was confirmed by the Röntgen-rays. The parts affected were almost immovable.

Virchow showed a patient, also a man, who had been suffering for years from a progressing myositis ossificans, until a large part of the muscles of the back and a part of those of the limbs were involved. In portions of the body where there are no muscles, the deposit of lime-salts also occurred. Thus an exostosis had formed on the side of the great toe, and had grown until it looked almost like a sixth toe, although it was not attached to the bones.

SELECTION.

NOTES ON OPHTHALMOLOGY IN VIENNA.[1]

By REGINALD E. BICKERTON, M.B., Ch.B.(Vict.).

The following remarks apply more particularly to the operative methods and procedures followed in Professor Fuchs' Clinical Department in Vienna, and are all written from personal observation, in most cases as one of the assistants.

ASEPSIS AND ANTISEPSIS.

Sterilization of Hands and Dressings.—All hand towels, cotton-wool for sponging, dry and wet, for dressings and pads, are first sterilized in a hot-air sterilizer for at least one hour, usually two. During the process the cotton-wool for sponging is contained in cardboard cases: the cotton-wool pads used for dressings immediately after operations, in porous porcelain jars; the towels and gauze used for dry sponging being put in round metal cases with perforated tops and bottoms. After sterilizing, these dressings are never touched by hand again till the operator places the dressing in position after the operation. The cotton-wool which is used for wet sponging is put into corrosive-sublimate lotion (1–5000) by means of a pair of sterilized forceps. After washing their hands and sterilizing, more or less, with corrosive-sublimate lotion 1–1000, the operator and his assistant dry their hands on a sterilized towel, which is then laid across the patient's chest close up to the chin, so that, if any instrument are laid upon it, they do not necessarily become infected.

Irrigation Lotions. — Corrosive-sublimate lotions of two strengths (1–2500 and 1–1000) are used. Carbolic-acid lotion (1–40) is used only for laying instruments in and for boiling and keeping silk ligatures in. Saline solution 1–1000 is used for irrigating conjunctival sacs before operation. Separate irrigation nozzles are kept for purulent cases and for trachoma cases. Boracic acid (1–500) was used in one case for syringing out the anterior chamber, the wound having become purulent after an operation.

PREPARATION OF PATIENT.

Treatment Previous to Operation.—All cataract cases are kept in the hospital for a day before the operation is undertaken. In many unclean-looking cases the eye to be operated on is syringed out with corrosive sublimate (1–2500) the night before the operation and a pad applied. The syringing is repeated on the morning of the operation, and a simple rubber pad is put on without any further dressing.

Immediate Preparation for Operation.—When the patient is on the operating-table, immediately before the operation is commenced, the eye is again thoroughly well sponged and irrigated, either by the operator himself or his assistant. If the case happens to be a particularly unclean-looking one, the eyebrows, lids—especially the ciliary margins—and surrounding skin are well washed with a neutral soap and sponged with corrosive sublimate, then dried. In all cases the upper lid is everted and the palpebral conjunctiva well sponged with cotton-wool dipped in sublimate—1–1000 first, then 1–2500—particular care being taken to cleanse thoroughly the fornix conjunctivæ. The lower lid is then cleansed in a similar manner, the lacrimal sac being always pressed upon to make certain that there is no retained secretion or abnormal secretion which might regurgitate under the slight pressure of the pad after the operation. The lids are then allowed to fall back into their normal position. Irrigation of both conjuntival sacs is next performed by means of a flattened irrigation nozzle, the fluid used being contained in glass bottles placed some ten feet from the floor. Saline solution is usually employed, the nozzle being placed well up into the fornix. A thin layer of sterilized gause dipped in sublimate lotion is now placed over the patient's face, eyebrow, and nose, a hole being made previously in it for the eye. These preparations apply to all operations.

INSTRUMENTS.

For Aseptic Cases.—All instruments, except those reserved specially for purulent conditions and trachoma, are kept in a glass instrument-cabinet with glass shelves and metal racks for holding them. Knives and all cutting instruments are kept in the same way, and not in separate cases, and they do not seem to become rusted from exposure.

For Septic Cases.—All instruments used for abscesses, Saemisch's operation, and purulent conditions generally, are kept in a separate wooden box, being well boiled both before and after every operation. Instruments used for trachoma cases of any kind, whether for lid operations or for bulb operations, also Knapp's roller forceps, are kept in a separate wooden case, and not in the general instrument cabinet.

Preparation of Instruments.—The instruments about to be used for any operation are placed in a small metal rack with their points and part of the handles projecting; the whole rack with instruments thereon is then placed in a tin sterilizer containing two liters of boiling water with five grams of sodium carbonate dissolved in it to prevent rusting. They are boiled in this for two minutes, or never less than one minute. A separate sterilizer is kept for abscess and trachoma instruments, similar to that used for non-infective operations. Immediately before use the rack with instruments on it is taken out of the

[1] Reprinted from the *British Medical Journal*, September 17, 1898.

sterilizer by means of a wire carrier, and the whole thing placed on a sterilized porcelain plate and covered with a double layer of sterilized gauze dipped in corrosive-sublimate lotion. The operator and his assistant are the only persons then who touch the instruments, which are used usually while still warm. If any unusual number of instruments are required they are first sterilized by boiling, then placed in carbolic-acid lotion (1–40), and used wet. All the knives used, and most of the other "handled" instruments have bone handles, and the boiling for this length of time seemed to have very little effect in loosening the handles. The handles of the instruments used for abscesses always became loose sooner than any others, as these instruments were boiled for a longer time both before and after each operation, sometimes for half an hour after the operation.

SUTURES AND NEEDLES.

Sutures.—Catgut is used for all conjunctival sutures, and various thicknesses of silk for plastic operations, adjustments, Snellen's sutures. Catgut sutures are kept in a spirituous corrosive-sublimate solution, and are not boiled or put into any watery solution before use, but simply laid between the folds of sublimate gauze. The silk used is first wound on to a big reel, and the reel and silk then boiled for an hour and a half in carbolic lotion (1–40.) It is then removed from the big reel on to smaller glass reels, on which it is kept and from which it is cut off as required. These smaller glass reels are then boiled for another hour in 1–40 carbolic, and are afterward transferred to glass dishes, in which they are kept in 1–40 carbolic. These repeated boilings have very little effect in making the silk lose strength.

Needles.—The needles used have patent and split eyes, which facilitate threading. The needles about to be used are first boiled, then the silk threaded, and the needle, together with the silk again dipped in boiling water for half a minute. They prove absolutely aseptic, and suppuration never took place round a suture.

COCAIN AND ANESTHETIC SOLUTIONS.

A three-per-cent. solution of cocain is used for all operations where cocain in required. A separate bottle and drop tube are kept for all trachoma cases, the bottle being labeled "trachoma" and colored. Another bottle labeled "abscess cocain" is kept for all abscess and purulent cases. Thus the risk of carrying infection by contact of the drop tube or bottle from infective cases to non-infective cases is eliminated. All the cocain used is in sterilized solution, and all cocain used during an operation, after an incision has been made into the eyeball, is, to commence with, a sterilized solution put in sterile drop bottles, which are then put in a glass beaker uncovered; the beaker is then placed in the hot-air sterilizer for an hour, then taken out and a solution of acid thymol, 3–1000, poured over the bottles till they are completely submerged; they are kept in this, and no one touches them without first sterilizing his hands. Atropin and eserin are kept in the same way, being in drop bottles with "turn-off" stoppers. Cocain is instilled a quarter of an hour before any operation, and no fewer than four times during this time.

Hypodermic Solutions.—The solution of cocain used for hypodermic injections is of the strength of three per cent. The syringes and needles are kept in glycerin, and filled with glycerin when not in use; this prevents rusting, and also the entrance of extraneous matter into the barrel of the syringe. Cocain injections are employed in extirpation of the lacrimal sac and gland, in operations for trichiasis, entropion and ectropion, Panas' and Spencer Watson's and Von Arlt's operations for advancement of muscles, for meibomian cysts, styes, Knapp's roller forceps operation for trachoma, and in all small plastic lid operations. The quantity injected is 15 and 20 and 30 c.mm., and in the ten months during which I witnessed several operations performed every day I never saw any ill after-effects from its use. A solution of cocain with morphin is also occasionally used. Separate hypodermic needles are kept for trachoma cases. Before use the needles are in all cases held in boiling water for half a minute. General anesthetics, pure chloroform, pure ether, and A. C. E. mixture are employed. Skinners' mask is used in every case.

THE OPERATIONS.

Position of the Operator.—The operator stands in front of the patient, rarely behind. Right eyes are operated on by the left hand, and vice versa.

Light.—Operations are performed by daylight in most cases. When the light is very bright it is admitted from above the level of the operator's head only, so that the light comes from above and not directly from the side; by this means much of the corneal reflection is done away with. A small hand electric lamp is usually used for discissions, and when the daylight is insufficient.

Speculum.—This instrument is not usually used in cataract extractions or iridectomies unless the patient is very refractory. The lids are held apart by the assistant, and allowed to close immediately the primary incision is completed, and also between each step of the operation. The speculum generally in use has an automatic spring, without adjusting screw, and tends to separate the lids always wider and wider apart, in this way causing undue pressure on the eyeball. Desmarre's lid elevators are used in enucleation and exenteration of the orbit.

Cataract Extraction.—The complete operation is always done at one time. A large conjunctival flap is made. The operation with iridectomy is performed slightly more often than the operation without; for example, out of 400 extractions 206 were performed with iridectomy. The number of cases in which prolapse of the iris occurred was very small. Graefe's knife was always used. The lens capsule was opened by means of capsule forceps having teeth on the under side of bent arms. The lens entire, in its thickened capsule, was occasionally removed in this manner. If the forceps failed to open the capsule the cystotome was used. The lens was expressed by pressure applied by means of the finger through the lower lid, the edge of the lid being used in much the same manner as a cataract spoon. The iris almost invariably re

quired reposition after the lens had been removed, when the operation had been done without iridectomy. One or two drops of eserine solution (one per cent.) sterilized were instilled after reposition of the iris and of the conjunctival flap. This was done only in operations without iridectomy. Both eyes were covered by soft dry wool pads; no head bandage was used, but a Snellen's aluminum shield was placed over the operated eye. If any difficulty was experienced in removing the lens, or of the vitreous presenting before it was removed, a small pair of forceps with curved arms terminating in each in a small hook was used as a vectis; the forceps were passed behind the lens, closed, then opened and drawn forward, the two hooks being thus driven into the lens, and holding it securely while it was drawn out of the wound. In some cases the vectis (Weber's) was used in place of the hooked forceps. In some four or five extractions a couple of very fine silk sutures were used after the operation was completed, with the object of bringing about union of the conjunctival flap more rapidly, and of lessening the amount of astigmatism after the operation. The results, however, were not considered sufficiently satisfactory to warrant a continuance of the practice. The small electric lamp was used invariably after the lens had been removed to examine for any soft matter left behind; if any was seen Daviel's spoon was introduced, and an attempt made to remove it.

Discission.—Discission for high myopia was never done for a less degree than 15 or 16 dioptrics. The speculum was used in the majority of cases; a crucial incision was made through the anterior lens capsule with a somewhat sickle-shaped cutting needle, cutting both in concavity or convexity (Knapp). In one of the clinics discission in the above cases was always performed by means of a Graefe knife, held on the flat; that it to say, with the blade parallel to the plane of the iris. The knife was introduced into the anterior chamber, and a single vertical incision made through the whole length of the anterior capsule of the lens if possible. It was held by the supporters of this method that the wound so made in the cornea healed better, and left a slighter scar than that left by the needle.

Discission of secondary cataract was frequently done *per scleram*, but also *per corneam*, with one needle and with two. The operation *per scleram* was performed well behind the ciliary region with a single needle, and gave very good results in cases of obstinate thickened capsules. In no case did any severe reaction follow the operation. In some cases of very much thickened capsule, an incision to remove this was made with a keratome as for iridectomy in the margin of the cornea, the capsule seized with a pair of capsule forceps, as used in extraction, and torn out perhaps with the help of a cystotome. In cases of occluded pupil, the operation with a Graefe's cataract knife as described below — iridotomy — was sometimes performed.

Punction and Linear Extraction.—Punction for removal of swollen-up partially absorbed lens matter, following a previous discission, was done usually on the third or fourth day, when the tension had become slightly raised. A very small incision was made usually at the lower and outer margin of the cornea, with a narrow keratome. Much of the lens matter came out at once with the aqueous, which was let out as gently and as slowly as possible. A Daviel's spoon was then placed in the wound and pressure gently applied backward, more lens substance escaping. After a short pause, during which the anterior chamber was reforming, the spoon was again introduced and more of the lens matter expressed. If necessary a second spoon was used to express the lens from above down toward the wound. The vitreous not infrequently filled the anterior chamber before all the lens matter had been removed. By this operation the period of absorption of the broken-up lens is, it is contended, very much diminished, the risk of acute increase of tension in the eyeball done away with, and very little, if any, corneal astigmatism results.

Syringing Out the Anterior Chamber.—This operation was performed in only one case, in which suppuration had taken place in the anterior chamber following on a cataract extraction. The wound was reopened, and the bent and flattened nozzle of a syringe made for the purpose introduced into the anterior chamber, which was then thoroughly syringed out with a sterilized solution of boracic acid, 1 in 500. This, though performed two or three times, had very little, if any, effect in checking the course of suppuration.

Iridectomy.—This operation was performed either with a Graefe knife or a keratome. The incision with the latter was always begun in the sclera. The iris was drawn into the wound with small iris forceps, and cut off by means of De Wecker's forceps scissors. In two cases following an iridectomy performed in cases of glaucoma, intraocular hemorrhage took place, the lens, vitreous, and entire contents of the eyeball being gradually extruded through the wound, in spite of considerable pressure applied by means of pads and a head bandage. The patient suffered great pain at the time.

Transfixion for Iris Bombé.—This operation was performed with a broad Graefe knife held on the flat, that is, parallel with the plane of the iris (normal), and introduced from the outer side in the cornea. Two incisions were made through the iris on both sides of the pupil, four small holes in all being made. Care was taken not to injure the lens or lens capsule while the point of the knife was passing in front of the pupil.

Operation for Synechiæ.—This operation was performed with a view to loosening adhesions between the iris and back of the cornea. Lang's synechiæ knives were always used. In two cases in which extensive and very firm adhesions were present, most excellent results followed, the iris after the operation being quite unhindered in its movements, and the pupil later on becoming very nearly normal in shape.

Operation against Commencing Staphyloma with Incarcerated Iris.—This operation, which I have twice witnessed, consisted in the trephining of the cornea with the part of the iris involved, and the complete removal of the commencing staphylomatous part of the cornea, with the piece of iris. The loss of substance in the cornea

was then filled up by a piece of healthy cornea of similar size trephined from another eye, which was about to be enucleated. In one case the piece of transplanted cornea, which retained its transparency to some extent, was slightly raised above the surrounding cornea. In both cases the iris was successfully freed, and the cornea given a much greater chance of retaining its shape and nutrition.

Operation for Prolapsed Iris after Injury; Ulcer.—The staphyloma resulting in these cases was carefully punctured by a conical sharp sound, the aqueous allowed to flow away as gradually as possible, the iris then freed all round its adhesions to the corneal wound, drawn out from the wound as far as possible, and cut off with De Wecker's iris scissors. As much of the iris as could be got hold of through the wound was then seized, drawn out, and cut off, until it was in every part completely out of danger of again becoming incarcerated.

Iridotomy.—This operation was always performed by means of a Graefe knife, somewhat narrow, held and introduced through the cornea with the blade at right angles to the corneal surface and with the cutting edge backward, that is, toward the interior of the eyeball and iris. The point was entered through the cornea from below, and advanced in the anterior chamber till it had reached the opposite limit of the chamber. The handle was then brought upward, thus depressing the point and blade, and the iris and occluded pupil cut through; the knife was then withdrawn perpendicularly, cutting the iris completely through immediately below the point of puncture. The very best results were thus obtained, and the reaction was slight. This was only done in cases in which the lens was absent; if any of the lens happened to be present, as in many complicated cases, an attempt was first made to extract it by means of an iridectomy and the usual operation; the pupil, if still occluded, was afterward dealt with in the above manner. Capsulotomy after this method was done also in cases of adherent, thick, secondary cataract.

Optico-ciliary Neurotomy.—The rectus internus was divided and sutured, and the optic and ciliary nerves cut through with a pair of strong, curved, blunt pointed scissors. The eyeball was meanwhile rotated outward as much as possible. The internus muscle was then sutured to its tendon, unless it happened that the bleeding was very great, with great protrusion of the eyeball. The bleeding and protrusion in most cases seemed to be considerable.

Enucleation.—This was always done after the Vienna method. No muscle hook was used, but simply two pairs of large straight scissors, with a small curve, one pair of forceps, a strong catgut suture, and a pair of Desmarre's lid elevators. The operation was done from the left always. In the case of the left eye the externus muscle was first cut through, and the eyeball held in the forceps by means of this muscle's attachment throughout the operation. The internus muscle was last severed, the last after the optic nerve had been divided. With the right eye the internus was the first muscle divided, and the eyeball was held by means of its attachment, the externus muscle being the last cut through, after the optic nerve. A single thick catgut running suture was then placed in the conjunctiva, and just before it was drawn tight and tied, the cavities were well syringed out with corrosive sublimate solution (1 in 1000). Iodoform powder was then dusted in and a dry dressing and head bandage applied.

Mule's Operation.—This was very rarely performed, some three times during ten months. The artificial vitreous used was not spherical, but a flattened, four-cornered, silver-gilt, spheroid, with the corners well rounded off. The cornea and sclera were cut away just behind the ciliary processes, and the scleral cavity scraped out with an ordinary Volkmann's scoop. The interior was well irrigated with corrosive sublimate (1 in 1000), and the wound closed, after inserting the artificial vitreous, by a catgut suture passed through the conjunctiva and sclera at the same time. Dry dressings and a somewhat tight head bandage were applied. Simple evisceration of the globe, without the insertion of artificial vitreous, I never saw performed.

Tattooing for Leucoma. — This operation was performed in the ordinary manner in many cases, but in some the trephine was used to remove the epithelium and upper laminæ of the cornea. A somewhat large trephine, equal to the size of the pupil of the other eye when at rest, was chosen. The piece so marked out was then dissected off, taking as little of the corneal laminæ as possible, and placed on cotton-wool. A few drops of a solution of cocain (five per cent.) were then dropped into the wound in order to stop the bleeding. When this had ceased the India ink was applied with a spatula, and well rubbed and scraped in by the point of a Graefe cataract knife, taking care that the edges of the trephine wound were not notched in so doing. The trephined piece of cornea was then replaced in the wound, but this procedure did not appear very satisfactory, as some bleeding invariably took place under the piece of replaced cornea, raising it up, and it very soon shriveled and dropped off. The resulting appearance, even if this did take place, was very good indeed, the sharply defined margin of the tattooed portion giving quite the appearance of a normal pupil.

Extirpation of the Lacrimal Sac. — This was an operation of every-day occurrence. A cocain injection only was employed. An incision almost vertical in direction was made through the skin on the site of the sac; the wound then kept open by means of Müller's spring wound dilator, and the incision deepened until the internal tarsal ligament was reached. This was then cut through with scissors and the sac dissected free all round; the upper end was raised forward from the bone with forceps and the sac well cleared of all its attachments, and in most cases of inflammatory adhesions. The lacrimal duct, or rather the mucous membrane lining it, was cut through as deeply as possible with scissors, the duct being put on the stretch meanwhile. The cavity thus left by removal of the sac was well scraped out with a Volkmann's small scoop, syringed out with sublimate lotion (1–1000), iodoform dusted in, and the edges of the skin incision united by three or four silk sutures. Union by first intention was as a rule secured; but, if any of the sac had been left behind, this did not occur, and often rendered a second

scraping necessary. This operation was done invariably when ulcer serpens was present. Bowman's sounds were used, but lacrimal styles never.

Removal of Lacrimal Gland.—This was performed in many cases after the above operation. The theory was that the lacrimal gland should not secrete more than could be removed by evaporation. If it did secret more, then it was held to be abnormal and was removed. The operation was performed through the conjunctiva, the cavity being scraped out afterward, and the conjunctiva sutured by two or three catgut sutures.

Knapp's Roller Forceps Operation. — In trachoma cases in which the palpebral conjunctiva was very rich in trachoma granules, the upper lid was everted and cocain was instilled, as well as injected in several places under the palpebral conjunctiva. The granules were then punctured with the point of a Graefe knife, the roller forceps applied, and the contents squeezed out.

Extraction of Steel and Iron Foreign Bodies.—When such were lodged in the interior of the eyeball, and known to be present, the patient was at once taken to the big electromagnet (Haab's), and the piece of metal drawn into the anterior chamber if possible, and then removed by a corneal incision and the smaller point of Hirschberg's magnet. When it was not known for certain whether a piece of metal was present or not, the patient was taken to be tested by means of the sideroscope, which appeared to give only very doubtful results. With Haab's magnet the diagnosis was made absolutely certain, and in many cases the piece of metal could, when it was lodged behind the iris, be actually seen being drawn forward. If the piece of metal were lodged in the posterior chamber, it never came forward throughthe lens, unless there happened to be a hole in the posterior lens capsule, but always slipped round it, till it reached the suspensory ligament, which it tore through, with a sufficiently powerful magnet, and came up against the iris. From this position it was with a little manipulation readily brought forward into the anterior chamber, where it fell. Since this magnet has been in use, it has never failed to extract a splinter of iron or steel from the interior of the eyeball, no matter how deeply it has been embedded.

Sclerotomy.—Both anterior and posterior sclerotomy were constantly performed. Posterior sclerotomy after Priestley Smith's method was invariably performed on glaucomatous globes, in which intra-ocular hemorrhage might be expected to occur if an iridectomy were undertaken.

Plastic Operations.—Of the many and various plastic operations I will not attempt any description, as the number is far too great, due to the great amount of trachoma, the resulting scarring and deformities being relieved, or attempted, by all the various typical and atypical operations which suggest themselves. Thiersch's skin-grafting is a very favorite method in the case of extensive burns.

Number of Operations.—Of the total number of operations of all kinds performed, some idea may be gathered from the fact that between November 1, 1897, and July 9, 1898, 1499 operations were performed and written up in the operation-books, 400 of which were cataract extractions. This number does not include such operations as scraping hordeola, meibomian cysts, etc.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held October 6, 1898.

The President, E. G. Janeway, M.D., in the Chair.

The paper of the evening, entitled

NOTES ON SURGERY IN THE RECENT WAR

was read by Major William Duffield Bell, Surgeon of the Seventy-first Regiment, New York Volunteers. (See page 488.)

Discussion.

Dr. Joseph D. Bryant: Although I was not on the battle-field, I have had some experience with these cases, having come in contact with the patients after their transportation to this city, and I have been struck by the marked characteristic of the wound made by the Mauser bullet—the widely differing effect which it has upon the hard and soft parts. This was particularly brought to my notice by two instances. In the first the man received a bullet in the upper third of the humerus. It made its exit posteriorly and plowed through the chest-wall. This happened four weeks before I saw him. The wound in the arm had closed, with no history of the escape of pus or bony fragments, and there were no evidences of such having taken place. There was, however, considerable thickening of the parts, indicating that there had been not exactly splintering of the bone, but what might be called *pulverization.* There was some union—enough to obscure any evidence of exposed bony fragments—but false motion was well marked. But little or no pain was present. The wound of the superficial soft parts of the thorax made by the bullet in its exit had not healed. It looked as if it had been made with a red-hot iron, or, to put it more clearly, it resembled a slough with a distinct line of demarcation, the edges of the wound being ragged and torn. This is one of the characteristics of the Mauser bullet. The patient eventually made a good recovery.

The second case was that of a lieutenant of the regular army, who informed me that he was one of the first wounded, and consequently one of the first whose wounds were dressed, and, therefore, considered himself especially fortunate. He was wounded in the upper third of the femur, the ball passing through the limb and grazing the opposite one after making its exit. Four weeks had elapsed since the injury when he came under my care. There was about one and one-fourth inches of shortening and considerable false motion, which I accounted for by the division of the soft parts and also by the fact of his being brought from Cuba on one of the transports. He told me that when the wound was received there was but little hemorrhage, comparatively speaking. I had the limb put up in plaster of Paris and kept there for four weeks, at the end of which time the bone seemed to be firmly united. The patient was cautioned to be careful, but within forty-eight hours he began to complain of pain

at the seat of injury. Later this pain increased and false motion was detected. This may be explained by the bad physical condition of the man, who had been subjected to the detrimental influence of camp-life at Santiago, and it may also have been due to extensive injury to the bone.

DR. JOHN H. GIRDNER: I would like to ask the author if he noticed any difference in the character of the wounds caused by the Mauser bullet fired at short and long range.

DR. BELL: Of course the wound is different when the bullet is fired at short range. At one time we sent word to the Spaniards that if they did not stop using explosive bullets we would use them ourselves. They sent back an answer to the effect that we must be already using them ourselves, as evidenced by the wounds their soldiers were receiving. The effect of a bullet fired at 500 yards differs from that fired at 800 yards. At El Caney nearly all of the wounds were received at 400 yards, and at San Juan before the troops got within 800 yards of the enemy. In the case of the wounds received at El Caney the bones were splintered—in some cases to a state of pulp. At San Juan the bullets passed through a bone without splintering it. In one case a man was shot through the head, the bullet entering behind the ear, through the mastoid process, and coming out near the spine. He bled profusely, but was all right within a week. Wounds of the abdomen were remarkably well borne. The patients did not suffer from shock, no operation was performed, yet the patients invariably recovered. In one case which came under my observation there were eight perforations, and yet the man was able to walk four miles to the hospital. Operation was proposed, but as there was no shock and no hemorrhage it was suggested that we wait ten or twelve hours. During this time the patient disappeared. He was walking about three days later and has had no trouble since. Wounds of the lung were followed by profuse expectoration but no other symptoms presented, unless there was also fracture of the ribs causing perforation.

A peculiarity of the Mauser bullet is that it never lodges in bone but always passes through it. Even a spent ball will do this. It frequently passes through one man and strikes another, and even a third. It makes a very pretty wound. I know of one case in which a man was shot through the liver and another in which the bullet passed through the thorax, and both men recovered. The wound caused by the Mauser bullet is in striking contrast to those made by the explosive bullet fired at short or long range from a Springfield rifle. When the latter strikes a tree it digs a hole in it. When it strikes a man's head it leaves a wound like that make by a shell.

In regard to the absence of hemorrhage in injuries of the soft parts, this is explained by the fact that the blood-vessels seem to recede from the bullet. In one case in which a man received a bullet in the groin, passing through the hip back of the joint, it seemed as if it must have severed the femoral artery, but it was found that the vessel had shrunk into the wound. This peculiarity was noted by five or six surgeons. I have also noticed that wounds of the soft parts heal at once. When the first dressing is removed on the third day healing has already begun.

DR. MONA LESSER: While in Cuba I had 181 cases of this kind in my charge. Of these 161 required surgical operations of more or less importance. The rest were clean wounds, either through the skull, the thorax, the abdomen, or the extremities. Among the most remarkable were 18 men who were shot through the skull. In one instance the man was shot through the parietal bones, causing profuse hemorrhage and the patient was brought to the hospital paralyzed in both the upper and lower extremities. He was immediately trephined and much to the surprise of all, he was able to use his arms and legs, showing that the trouble was due to pressure from blood-clots. I have since learned that the patient came to this city where he was operated upon by a prominent surgeon and died. Another interesting case was that of an officer who is now superintendent of the West Point Academy. He received a bullet which entered a little below the right eye and made its exit on the left cheek. He was brought to the hospital blind. The muscles surrounding the right eye were completely paralyzed and he could barely distinguish a light when it was held directly in front of him. He has since recovered the use of one eye. One of the officers of the Ninth Cavalry received a bullet in the head which fractured the parietal bones. He was dazed when brought to the hospital but made a good recovery after the depressed bone was raised. The great majority of the wounds were clean and the only dressing applied was a piece of plaster. I saw ten or twelve cases in which a bullet had passed directly through the abdomen from before backward or from side to side. In two cases intestinal hemorrhage occurred on the first or second day but in each instance the patient recovered. I also saw several cases—two or three—in which the bullet passed through the neck. These were clean wounds. Wounds of the extremities were usually accompanied by compound comminuted fractures, and this was always the case if the bullet was fired at close range. The treatment given was very simple and recovery ensued except in those cases in which the bone was reduced to a pulp. I saw one such case operated upon by Dr. Nancrede. It is a remarkable fact that of the 1415 patients treated at Santiago during the first week in July only four had died up to July 7th. Surgical fever was almost unknown in the camp. In cases in which a bullet was received in the forearm or leg, one bone of the extremity was badly fractured and the other very little. It was generally necessary to remove small portions of bone, leaving those which were attached to the periosteum, and the patients did remarkably well. The American soldiers seemed to do better than the Spaniards. Those of the latter who received their wounds in the naval battles were very badly injured. There were no clean wounds among them. Resection was not possible—it was either amputation or nothing. Among those wounded on the field there were many in whom large vessels were injured. These were ligated and most of the patients recovered. Twelve such cases were treated between July 2d and 3d. Five of these, Spanish soldiers, died within the first twenty hours—one from tetanus, one

from yellow fever, and three from septicemia. They had been lying several days unattended. The most remarkable part of it all was that most of the injured were able to walk miles to the hospital with nothing but a little pad on their wounds. I am sure that many hundreds would have died but for these little pads with which their wounds were dressed on the field. The Spaniards did not have these pads. Taking it all together we must come to the conclusion that the Mauser bullet, when fired at long range, is a very humane one. I went to the war expecting to see a great deal of operating, but I saw very little. There were a few resections done at Siboney and I saw six amputations—two of the lower extremity at the thigh, two below the knee, one of the arm, and one of the hand. Most of the wounds were not of a severe character and required the most simple treatment. Recovery generally followed if this treatment was promptly given on the field. Major Bell has told you how well this was done, and I can only add that it is impossible to give too much praise to the army and volunteer surgeons for the good work they did.

THE PRESIDENT: I would would like to ask the author whether he saw much tetanus among the wounded. I have been told by Cuban medical students that idiopathic tetanus is not uncommon in their country,

DR. BELL: I saw no tetanus in Cuba but I believe a case was reported as occurring in Florida. That we did not have it in Cuba is probably due to the great care with which wounds were treated on the field. Antiseptic solutions were prepared with boiled water and in all the field hospitals scrupulous cleanliness was strictly carried out. The antiseptic pads which were applied on the field were also of great service in preventing wound infection.

DR. DANIEL M. APPEL, U. S. A.: I have had charge of the sick and wounded who were sent to this city on the transports. They were immediately sent to the various city hospitals and I have seen them constantly. They are beautiful cases so far as the results are concerned. The few deaths which have occurred were of men wounded in the abdomen, upon whom operation was necessary on account of extensive laceration of the viscera, such as the liver, and in whom a fatal result was to be expected.

AMERICAN PUBLIC-HEALTH ASSOCIATION.

Twenty-sixth Annual Meeting, Held at Ottawa, Canada, September 27, 28, 29, and 30, 1898.

THE President, DR. CHARLES A. LINDSLEY of New Haven, Conn., in the Chair. The Association met in the Railway Committee Room of the House of Commons.

DR. JOHN L. LEAL of Paterson, N. J., read a paper, entitled

AN OUTBREAK OF TYPHOID FEVER DUE TO AN INFECTED WATER-SUPPLY.

He dealt with the pollution of water as supplied to the residents of Paterson. This outbreak established the fact that the germs originating from a single case of typhoid fever might infect even a large body of water, so as to reproduce itself among those dependent upon the same water for their public supply, even though the supply be taken at a point some distance from the focus of infection.

THE CAUSE AND PREVENTION OF INFECTIOUS DISEASES,

was the title of a paper read by DR. PETER H. BRYCE of Toronto. He said that infectious diseases must be divided according to their mode of causation, their growth and development. With reference to methods for suppressing outbreaks of diphtheria in a community, in a number of municipalities in Ontario where the disease appeared, principally among school children, the practice was introduced of a morning visitation by the Sanitary Inspector to all the public schools to obtain a list of the children that were absent. The homes of these were promptly visited and when any evidence of malaise and sore throat was present the parents were at once required to send for a family physician and have a swab taken and forwarded to the medical officer by the afternoon. These were sent at once by mail to the laboratory and the patient isolated, until an answer by telegraph of the result of the examination was received. When the cases proved to be diphtheria, the patient was isolated until further examination proved the freedom of the throat from bacilli. The children of the household were kept from school and the public, and the homes subsequently disinfected with formaldehyd when the children had not been removed to the hospital.

ANNUAL ADDRESS OF THE PRESIDENT.

DR. LINDSLEY said that the primary and ultimate purpose of the Association is the protection and preservation of public health. He dwelt at length upon the rapid progress that medical science has made during the past few years. Provincial, State, and local boards of health are coming to be recognized everywhere as necessary forces for the safety and well-being of all civilized communities. The movement has gained an impetus which cannot be resisted. It must go on, nurtured, sustained, and guided in its progress by the skill, judicious enterprise, and intelligent energy, so characteristic of the people of North America, until, in practical utility and successful results, it will have no superior among the nations of the earth.

DR. HENRY B. HORLBECK of Charleston, S. C., presented the

REPORT OF THE COMMITTEE ON THE ETIOLOGY OF YELLOW FEVER.

Reference was made to the labors and experiments of Sanarelli. This scientist claims that he has found the bacillus icteroides in fifty-eight per cent. of the cases examined by him, and believes that the reason of his non-success in finding it always is due to incidental causes. Dr. Horlbeck referred to the investigations of Drs. P. E. and John I. Achinard of New Orleans, who have studied the subject of yellow-fever in relation to diagnosis by the Widal method. In fifty cases of yellow fever, agglutination with cessation of motion was obtained in more than seventy per cent. of the cases, the reaction being as characteristic as in typhoid-fever cases. The work of these

gentlemen demonstrates the practical value of serum diagnosis. It may be utilized as early as the second day. The dried-blood method of Dr. Wyatt Johnston was perfectly satisfactory. The serum diagnosis of yellow fever should be instituted in all countries wherein the disease may exist endemically, or which may be occasionally visited by epidemics. It is especially valuable at the beginning of epidemics in the diagnosis of early and doubtful cases. While the bacillus of Sanarelli is not the inevitable cause of the disease, it is still of sufficient importance to warrant its closer study.

DR. E. LICEAGA of Mexico, said that yellow fever has been known to be transmitted through the bagging that carries, corn, sugar, and coffee. It has also been transported by the clothing of persons who had been attacked by the disease. Another material which serves to propagate yellow fever is the ballast which is shipped by the vessels in Vera Cruz after having landed their cargo. The propagation of yellow fever through the medium of water is not well established, although it is a probable cause. The general conditions that favor the transmission of the disease are humidity, heat, and want of light and ventilation. Mosquitoes are known to carry the germs of the disease.

DR. ERNEST WENDE of Buffalo, read the

THE REPORT OF THE COMMITTEE ON THE CAUSE AND PREVENTION OF INFANT MORTALITY.

He said that several scarlet fever and diphtheria epidemics have been averted in Buffalo by promptly tracing the infection to a particular milk-supply. Most satisfaction has been found in the general condemnation of the long tube, death-dealing nursing-bottle. Buffalo, through its city health department, has interdicted the use of the long rubber tube, as a consequence of which a suit is now pending in the courts to test the validity of such action, this suit being prompted by commercial interests. In preparing for this litigation, in order to be able to demonstrate the danger of such nursing-bottles and the justification for suppressing them, the department of health has resorted to a series of microscopical, bacteriological and chemical investigations, which have revealed innumerable bacteria of varied morphology.

SOME OBSERVATIONS FROM PRACTICAL EXPERIENCE WITH BOVINE TUBERCULOSIS IN NEW HAMPSHIRE.

This paper was read by DR. IRVING A. WATSON of Concord, N. H. He gave a brief history of the official recognition of bovine tuberculosis in New Hampshire, and presented the following deductions: (1) That it is impossible to eradicate bovine tuberculosis, but that it may, without inflicting too great a burden upon the State be reduced to a degree that will subserve the interests of the stock raisers, and likewise protect the public health. (2) That but a very small percentage of animals infected with tuberculosis in any way endanger the public health, and that the indiscriminate slaughter of the cattle reacting to the tuberculin test is wholly unnecessary, inasmuch as many of them either recover or the disease is permanently arrested. (3) That a proper sanitary condition of stables and stable enclosures would do more toward preventing the spread of bovine tuberculosis than any other measure that can be adopted. (4) That the danger of infection from this disease may be reduced to very small proportions if not wholly eradicated by sanitary measures, inspections, and physical examinations by the State in cooperation with local authorities. (5) That such inspections, once inaugurated, can be maintained without an expense that would be burdensome to the State.

REPORT OF THE COMMITTEE ON DEMOGRAPHY AND STATISICS IN THEIR SANITARY RELATIONS.

The first part of this report, which was read by the Chairman, DR. WILBURM of Michigan, recommended the adoption of the Bertillon system of classification of causes of death, in accordance with the resolutions previously offered and adopted. Reliable and thoroughly comparable mortality statistics are absolutely essential for the use of sanitarians, and deductions based upon them are recognized as being of the greatest practical importance in public-health work. The formation of a plan of international union of the countries using this system occupied a considerable part of the report. The plan provides for consultations of pathologists, sanitarians, and all persons making use of mortality statistics, as well as the registration offices.

The system of classification and plan of revision were adopted by the Association, and the members of the National Commission for the countries represented were appointed.

LEPROSY IN MINNESOTA.

DR. H. M. BRAKEN of Minneapolis, read this paper, in which he called attention to the following facts as emphasized by the records:

1. The impression that leprosy immigrants from the Scandinavian peninsula are all from Norway is a wrong one, as five of eleven lepers whose cases were placed on file by the board during 1897 and 1898 were from Sweden.

2. The feeling that physicians can quarantine against lepers by watching immigrants is an unsafe one. The family history of all immigrants from the country where leprosy prevails should be secured before they are allowed to embark for America, and no member of a leprous family should be permitted to land on our shores.

3. It would appear that the conditions antagonistic to the spread of leprosy in Minnesota are also opposed to sterility, as borne out by the families of several lepers, some of these having had many children.

4. It is quite possible for leprosy to die out in certain favored sections of the country, such as Minnesota, without segregation, provided the importation of lepers is discontinued.

5. Even in Minnesota one has but to visit some of these lepers to feel that segregation should be insisted upon in all cases. One cannot but feel, on entering a filthy home and seeing a leprous mother careless in her habits, that the children are not safe.

6. Segregation in single States is not practicable. It tends simply to drive lepers from States enforcing such a practice to those that are not carrying out the system.

7. A Federal home should be provided for these un-

fortunates. They could thus be cared for more economically and more satisfactorily than through any State provision.

8. In spite of all precautions taken, there will be some leprous individuals in this part of the world for many years to come. The Scandinavian peninsula does not furnish all leprous individuals found in the United States.

Two papers were presented on

FLIES, FROM A HYGIENIC STANDPOINT.

Abundant evidence was adduced to show that diptera are active agents in the spread of epidemics and of contagion. They are also known to be important causative factors in the spread of typhoid fever and dysenteric diseases.

In the transaction of its routine business the Association elected sixty-six applicants to membership, the majority of whom were from Ottawa.

Dr. C. L. Wilbur of Lansing, Mich., offered resolutions, which were adopted, recommending that a plan be incorporated in the act to provide for the taking of the next United States census whereby reliable vital statistics may be secured for the non-registration States. The Association recommended the Bertillon classification of causes of death, and urged that it be adopted by all registrars of vital statistics in the United States, Canada, and Mexico as soon as the change from the systems now in use can be conveniently made.

The following resolutions were offered, referred to the Executive Committee, and subsequently adopted by the Association:

By Dr. Geo. H. Rohe:

Resolved, That the Committee on Public-Health Legislation be continued; that it be authorized and requested to proceed along the lines of work already begun; that the Association reaffirms its endorsement of the creation of a National Department of Public Health.

By Dr. A. L. Gihon:

Resolved, That a committee of seven be appointed by the Chair to wait upon the President of the United States with a view of obtaining a bacteriological commission to go to Havana to study the cause and prevention of yellow fever.

By Dr. A. Walter Suiter:

Resolved, That this Association recommends that public-health authorities in general exercise every possible means to effect the complete discontinuance of the use of the so-called long-tube nursing-bottle, which is so largely a contributing factor in infant mortality.

By Dr. U. O. B. Wingate:

Resolved, That a committee of five be appointed by the Chair for the purpose of drafting and presenting to this Association for adoption a definition of the term "epidemic" for the guidance of health authorities in executing such laws as call for the declaration of the presence of an epidemic.

By Dr. Henry B. Horlbeck:

Resolved, That the Association call the attention of the Government of the United States to the presence of leprosy in this country. This Association would urge upon the United States Government the necessity of establishing a leper home or colony, similar to such institutions as now exist in Canada and Mexico, where such persons can be segregated, and in this manner the general public may be protected, and, at the same time, these sufferers be afforded a proper home and medical care.

The following officers were elected for the ensuing year: President, Dr. George H. Rohe, Sykesville, Md.; first vice-president, Dr. Henry Mitchell, Asbury Park, N. J.; second vice-president, Dr. J. E. Monjaras, San Luis Potosi, Mexico; secretary, Dr. C. O. Probst, Columbus, Ohio; treasurer, Dr. Henry D. Holton, Brattleboro, Vt.

Minneapolis was selected as the place for holding the next meeting, the time of which will be in November, 1899.

REVIEWS.

Guide to the Clinical Examination and Treatment of Sick Children. By John Thomson, M.D., F.R.C.P., Extra Physician to the Royal Hospital for Sick Children, and Lecturer on the Diseases of Children in the School of Medicine of the Royal Colleges, Edinburgh. Illustrated. Philadelphia and New York: Lea Brothers & Co., 1898.

The object of this work, as stated in the preface, is to "supply to practitioners and senior students practical and useful information, which taken along with that contained in a text-book on practice of medicine, will be a help to them in the study and treatment of sick children." This idea is faithfully carried out, and the book will be welcome to a large class of readers. The larger amount of space is devoted to the examination of sick children. This part is full of valuable information, and contains many practical hints. Everywhere there is evidence of the close observation of the author. After this follow some chapters on the diseases peculiar to, or peculiar in, infancy.

The discussion of the diagnostic points of hereditary syphilis, of idiocy, and cretinism are especially worthy of perusal. We miss a consideration of some of the more common diseases of the new born. There are very good chapters on infant-feeding, the dosage of drugs, and therapeutic methods. The articles on gavage and lavage are very complete. The volume ends with a discussion of food disorders.

The language of the text is very clear, and the book is freely illustrated with reproductions of photographs which show clearly the desired points.

Lectures on Tumors. By John B. Hamilton, M.D., LL.D., Professor of Surgery, Rush Medical College and Chicago Polyclinic; Surgeon to Presbyterian Hospital; Consulting Surgeon to St. Joseph's Hospital, etc., Chicago. Third edition. Philadelphia: P. Blakiston's Son & Co., 1898.

It is a surprise to us that a book of this kind should have reached its third edition, for we cannot understand the necessity of its existence or the demand for its sale.

The book comprises a series of lectures to students on the subject of tumors, giving the symptomatology and treatment of each variety, and mentioning in detail the clinical history of several interesting cases, many being well known in literature, and some being personal observations of the author. The entire book is written in the free and easy lecture-room style, and to those interested in the general subject of tumors and familiar with them, may prove of some interest, particularly as to the clinical pictures described. But as a work dealing with tumors in a scientific manner, and as a work of reference it can hardly be recommended as a guide for the student.

ELEMENTS OF HISTOLOGY. By E. KLEIN, M.D., F.R.S., Lecturer on General Anatomy and Physiology, and J. S. EDKINS, M.A., M.B., Joint Lecturer and Demonstrator of Physiology in the Medical School of St. Bartholomew's Hospital, London. Revised and enlarged edition. Philadelphia and New York: Lea Brothers & Co., 1898.

KLEIN'S "HISTOLOGY" is too well known to teachers and students to require any special introduction, and it would be superfluous to review it *in extenso*. The work has now passed through five editions, and the present volume brings the subject well up to date. Many of the chapters have been carefully revised, and that upon the central nervous system has received particular attention. We are acquainted with no small work in English that deals with the subject in a more clear and comprehensive manner or that satisfies the needs of the student to better advantage. More advanced workers will even find it useful in some instances as a book of reference.

Many new illustrations have been added, and the glazed paper upon which the book is printed is a decided improvement over the early editions. Altogether the work can be highly recommended, and we congratulate the authors and publishers in giving us a book so well equipped to satisfy the requirements of all students.

MEDICAL DISEASES OF INFANCY AND CHILDHOOD. By DAWSON WILLIAMS, M.D., Physician to the East London Hospital for Children. With eighteen illustrations. Philadelphia and New York: Lea Brothers & Co., 1898.

THIS treatise is a good, short exposition of our present knowledge of the medical diseases of children. The descriptions of symptoms are quite full, and the treatment recommended will meet general approval. The accounts of rubella, tuberculosis, infective arthritis, acute thyroiditis, congenital laryngeal stridor, and constipation are excellent. The bacteriology of the infectious diseases is not well detailed. Bacilli are mentioned as probably causing measles and smallpox, but neither the Koplik-Czaplewski bacillus of pertussis, the diplococcus of parotitis nor the intracellular diplococcus of meningitis is mentioned. Under rubella there is an interesting account of supposed cases without the rash. The consideration of the treatment of laryngeal diphtheria is very incomplete.

The physical signs of pulmonary disease in children are very well described. The gastro-intestinal diseases "are classified according to clinical features"; but the order which is followed is curious. The diseases are, however, very well pictured, and the article is illustrated by Baginsky's photomicrographs. The pathology of renal diseases is not clearly given. The chapters on nervous diseases are very instructive, especially those on functional disturbances. The defects in the book are very few, and it will be of great service to those entering upon the study of pediatrics.

A TREATISE ON THE SCIENCE AND PRACTICE OF MIDWIFERY. By W. S. PLAYFAIR, M.D., LL.D., F.R.C.P., Emeritus Professor of Obstetric Medicine in King's College, London. Seventh American, from the ninth English, edition. Philadelphia and New York: Lea Brothers & Co., 1898.

THE old student of Playfair's "Midwifery" will find much of his favorite reading matter missing and much that is new and strange in this volume. The eminent author has, to use his own words, "endeavored to celebrate the fact of his work having attained its majority by a very thorough revision of the text," the first edition having been published twenty-two years ago.

It is impossible to record all the changes that have been made. Especially noteworthy are the chapters on conception and generation and the anatomy of the fetus, which have been rewritten in harmony with modern embryologic thought. The chapters on diseases of pregnancy have been made consistent with the pathologic knowledge of to-day and the treatment of difficult positions is in accord with the latest accepted teachings. The use of the forceps is admirably discussed and promulgates the author's well-known scientific views. Saline infusion is not given that prominence or preference to blood transfusion, which, in our opinion, its merits deserve. The question of infant-feeding is treated more scientifically than in earlier editions.

With these few notes the reviewer directs attention to this old classic among works on obstetrics, now in new form and new dress, and feels that it is destined to remain, as it long has been, the favorite among books of its kind.

THERAPEUTIC HINTS.

For Perspiration of Hands.—

℞ Sodii boratis, Ac. salicylici } aa . . . ℥ ss
Ac. borici . . . . gr. lxxx
Glycerini, Spiritus dil. } aa . . . ℥ iii.

M. Sig. External use. To be applied with friction three times a day.

For Migraine.—

℞ Antipyrin, Potassii brom. } aa . . . gr. viii
Cocain hydrochlorat. . . . gr. ⅙
Caffein . . . . . gr. ⅓
Pulv. guaranæ . . . . gr. v.

M. Ft. chart. No. I. Sig. To be taken at the first indication of an attack.

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXXIII. NEW YORK, SATURDAY, OCTOBER 22, 1898. NO. 17.

ORIGINAL ARTICLES.

ERGOT IN CHRONIC MALARIA.[1]

BY A. JACOBI, M.D., LL.D.,
OF NEW YORK;
CLINICAL PROFESSOR OF DISEASES OF CHILDREN IN COLUMBIA UNIVERSITY.

THESE notes are written exclusively for clinical purposes. That is why a few words on the active principles of ergot may suffice. They are sphacelinic acid, cornutin, also trimethylamin, vernin, and ergotinic acid. Trimethylamin gives rise to cerebral spasms which may become tetanic. It increases reflex irritability, and according to Gaethgens, accelerates, by irritation of centers located in the medulla oblongata, respiration and blood-pressure. Vernin, which was found by Schulze and Bosshard, is a new xanthin substance with effects similar to those described above. Sphacelinic acid (spasmotoxin, sphacelotoxin) so called by Kobert who first studied and named it, when absorbed in the intestine causes a hyaline degeneration of the blood-vessel walls, which first contract and finally dilate, also coagulation inside the vessels with consecutive gangrene. In proportion to the doses taken it causes paresthesia, alopecia, falling out of the nails, and gangrene of the skin or of the extremities. Fortunately, it is easily decomposed, so speedily indeed that ergot a year old contains none at all. The effective principle is cornutin, found and named by Kobert. What Tanret called ergotinin is chemically identical with it, but does not equal it in efficiency when prepared according to Kobert. It is easily decomposed when exposed to light or air. There is but little of it in ergot, all the alkaloids forming but 0.2 per cent. of the drug. It irritates the medulla oblongata, contracts arteries, increases blood-pressure, and contracts the unstriped muscular fiber in general. It is employed as a citrate or a chlorid. Kobert speaks of it as enclosed in capillaries holding 0.005 for subcutaneous use, or in pills of 0.002. In Merck's index, "cornutin" and "cornutin citrate" are enumerated. In poisonous doses it causes convulsions and contractures, also toxic polyneuritis, such as follows overdoses of arsenic, lead, phosphorus, alcohol, or mercury. Ergotinic acid, called sclerotinic acid in its impurer state, lowers the blood-pressure in animals. Before knowing better, I recommended it even in my "Therapeutics" for subcutaneous injections to obtain the effect of ergot; that was a serious mistake. In the intestinal tract it is decomposed, and under the skin it is painful and irritating.

All of these constituents lose their power while in the ergot, from month to month. It should be gathered before the rye is perfectly ripe for harvesting, but generally is not. The decomposition of the grain is mainly due to its large percentage (39) of fat; that is why a salutary effect is often missed and the opinions in regard to the efficiency of the drug differ. The effect of the extract or fluid extract depends on the retention of the cornutin. All such preparations as are deprived of the substances soluble in alcohol, are deteriorated thereby, for it is the active alkaloids that are soluble in alcohol. In the fluid extracts the alcohol should be strong enough to hold the alkaloids and dilute enough to dissolve but little of the fat. As far as I am concerned, I have employed for internal use, whenever possible, the solid alcoholic extract of the pharmacopœia. It seemed to me to give better results than even Bonjean's ergotin, which has been in the market since 1842. At all events, the value of ergot preparations is in their undecomposed alkaloids; everything else is either indifferent, disturbing, or injurious.[1]

The effect of ergot and its preparations, when given in medicinal doses, is mainly spent on the unstriped muscular fibers. Its effect on the uterus has been known and used and abused a long time. The muscles of the vagina were found to be influenced by it by Swiecichi.[2] That is why I felt encouraged more than forty years ago to administer it in conditions of hyperemia and of the acute and subacute inflammations of such organs whose blood-vessels are not entirely or almost deprived of muscular layers. The media of small arteries has unstriped muscular fibers. There are several of these layers in the larger ones, which besides are supplied with elastic fibers. This structure is uniform in all the arteries of the body. The veins, however, exhibit more startling differences, nowhere more than in the tunica media. It consists of circular muscular fibers, elastic network and fibrillar connective tissue, is best developed in the v. poplitea and the other veins of the lower ex-

[1] Read at the Annual Meeting of the American Climatological Association at Bethlehem, N. H., September 1, 1898.

[1] Kobert, "Lehrb. d. Pharmako-Therapie," Stuttgart, 1897, p. 502.

[2] Quoted by Kobert, "Intoxicationen," p. 185, 1893.

tremities, less in those of the upper extremities, still less in those of the abdominal cavity. It is *absent*—and here is an important point—*from the veins of the pia and dura mater*, of the retina and the bones, the vena cava, and all the veins emanating from the capillaries, where the media consists of transverse and oblique bundles of connective tissue only.[1]

As I said, the veins of the pia and dura have no muscular fiber in the media; moreover, in the cranial cavity they are long and distant from their arterial pressure-supply. That is why I am never surprised when the employment of ergot in brain disease is wholly futile. Circumstances are different in connection with the spinal canal. The veins of the cord and its membranes are no better supplied with contractile elements than those of the cranial cavity; but because of their shortness they are under the immediate influence of blood-pressure. That is why ergot, so useless in brain disease, is perfectly adapted to cases of spinal hyperemia, or to acute, or subacute spinal inflammation.[2]

The practice of employing ergot in spinal cases was gradually developed. In a report published in the *New York Medical Monthly*, during the years 1860 and 1861, on my clinic of the diseases of children in the New York Medical College, then in existence, you may find a few of my earlier cases in which I employed ergot for the purpose of contracting blood-vessels and relieving hyperemia and inflammation in spinal diseases.

Number 68 is a case of acute poliomyelitis; number 122, one of spinal meningitis; number 167, one of spinal hyperemia. So far as I know they are the first I published after some years of experience with the drug. In regard to the latter disease my information was obtained from a friend who at that time was stationed at the Emigrant Hospital of Ward's Island, Dr. Francis Simrock. Some histological considerations encouraged me besides in employing it in this way. The capsule of the spleen consists of dense and hard connective tissue, unstriped muscular fiber, and an elastic network. It sends off numerous processes, leaf- and string-like layers, into the interior of the spleen, thus forming a coherent network which contains the pulp. This network also contains, besides connective tissue, copious unstriped muscular fibers. Thus it seems there is no organ in the animal economy more amenable to the action of a muscle-contracting agent.

The employment of ergot in moderate doses has no dangers under most, ordinary circumstances. I have used it these forty years extensively, for weeks and even months in succession, without a single case of intoxication. The latter has frequently been observed in all countries of Europe, mostly in the past. If we hear of epidemics or endemics of ergotism, there are but few countries in which they are often met with, *viz.*, Spain, and still more, Russia. With the increase of civilized agriculture and a slight improvement in the general condition and nutrition of the population, the average of good rye increases, that of ergot decreases. In every harvest of corn there is some ergot; one per cent. is common and not attended with danger. But when a population is starved and subjected to malaria and other infectious diseases, and unclean and sleepless from hard work, starvation, and anxiety, and when they are fed on rye with a large percentage of ergot, and particularly when it is of recent growth, during and a very few months after cutting, ergotism may make its appearance.

There is danger in poisoning only, not in medication. In connection with malaria there are two organs we have to consider when medicating, the blood and the spleen, the former because it contains the sporozoa, the latter because of its sponge-like mass in which it harbors the infected blood and serves as a receptacle of dangers. It appears that a direct effect on the blood or on the plasmodia is not required for a cure, but that gradually the restoration of the spleen to a fairly normal size, forcing the stagnating blood into a normal circulation with progressive elimination of the plasmodia is sufficient to open the gates to recovery. That is what I believe I have often done by giving ergot in malaria.

The uncertainty of the effect may also be due to the fact that most preparations of ergot contain both ergotinic acid, which lowers arterial pressure, and cornutin which contracts the arteries. All of this should impress us with the necessity of using the alkaloid cornutin when it is obtainable. Even this substance should be used with great care, for in-

[1] Ph. Stoehr "Histology," seventh edition, p. 91.

[2] In hemorrhages, such as those of the lungs, ergot has long been used by some with great confidence, by others with indifferent success. Among the latest preparations is ergotinol, of which 1 c. c. corresponds to a gram of extract of ergot, which Vosswinkel eulogizes highly in pulmonary hemorrhages when used subcutaneously. Some think highly of ergot in all sorts of inflammatory processes. There is Croq of Brussels, for instance, who employs it in tuberculosis. In his opinion the tendency of tuberculosis is rather that of getting well, unless complicated by inflammatory processes to counteract which no medication seems to be more indicated than that of ergot. Certain forms of spermatorrhea and nocturnal enuresis connected with muscular incompetency of the sphincter are frequently benefited. Here its effect may be the direct one on the unstriped fiber, or on the spinal center of the sphincters which must be taken to be present in the lumbar cord along the uterine and spermatic centers. It has been given in Graves' disease for the same reason, not to speak of, for reasons unintelligible to me, its use in non-pancreatic diabetes mellitus, sea-sickness, and whooping-cough. In the paralytic form of hemicrania it has been highly recommended, and may be all of us have employed it. In tabes, spastic spinal paralysis, in progressive bulbar paralysis, it has been used because of the supposition that the anatomical lesion is attended by dilatation of blood-vessels. The results are but few or none. At all events, no physiological effect can be expected except in the initial stages when there still is or may be spinal congestion.

stance, in hemorrhage, which may be increased by heightened blood-pressure.

CASE I.—A Hungarian boy, aged five years, just arrived in the country, October 10, 1859. Had fever and ague, mostly quotidian attacks, at his home. On the ocean he was better, *viz.*, now and then he had a day without an attack. He was pale, waxy, with extensive hemic murmurs and with albumin in the copious and watery urine. His spleen extended nearly to the spina anterior superior. Had regular daily attacks with great prostration, in spite of quinin and Fowler's solution. Of the former he took from 6 to 12 grains daily. Being previously constipated his bowels had been attended to. Not being acquainted with the fluid extract—perhaps it was not even in the market[1]—I gave him an infuso-decoction, prepared with sulphuric acid, of half an ounce of ergot in 10 ounces of water, of which he was to take one-half tablespoonful three times a day. There being no improvement he took, after four days, the same dose five times a day. When I saw him ten days later he had been without an attack three days. The doses were continued five days, then for five more days four daily doses were given, and thereafter but three. During all this time he had no attacks of fever, albumin became less, but his spleen was still as large as before under percussion and palpation. Finally he was removed from South Brooklyn where Gowanus Bay was as pestiferous at that time as the shores of the River Theiss, and gradually with the use of iodid of potassium, iodid of iron, and the occasional resumption of ergot, he improved. After a year I saw him again, looking well but pale, with no albuminuria, hardly any murmur, but his spleen still palpable 3 centimeters below the border of the ribs.

CASE II.—His brother, sixteen years old, gave me a new experience. He had the very same symptoms exhibited by his brother—hydremia, tumor of the spleen, etc., without albuminuria and without the history of chills. For the latter reason he had taken no medicine whatsoever. After purging him gently I ordered the same medicine to be taken in tablespoon-doses four times daily. Two days after beginning his treatment he had a very violent chill followed by perspiration; no temperature was taken, as he was miles away. He had another violent attack the next day, a milder one a few days after this, and then no more. He was treated like his brother, with the same slow but finally satisfactory result.

CASE III. — A. W., male, fourteen months old. Was seen by me October 1, 1880. Was breastfed until half a year previously, then fed on mixed food. Had diarrhea in the summer, and fell ill with pneumonia of the right side a fortnight before I saw him. This was watched carefully; I found but few remnants of it. But in the beginning of the second week the baby was taken with a convulsion, high fever and vomiting, lips and fingers were bluish. After a few hours the condition improved, but on the following day, blue nails, high temperature, followed by apyrexia, and great debility were noticed. No return of pneumonia; no nephritis. Quinin was given in repeated doses for several days. No convulsion returned, but there were temperatures up to 102° and as low as 97° F. every day. The urine was pale all the time; more was passed during the high temperature, none during apyrexia. On October 1st this condition, of somewhat elevated temperature every day, which lasted a few hours, continued in spite of from 30 to 40 cg. of sulphate of quinin. There was no apparent reason for changing the medication, but care was taken to give the quinin doses during apyrexia and not within the last three hours before the expected attack. Up to October 5th there was hardly any change in the daily recurrence of temperature. The spleen became palpable and appeared sensitive on pressure; meanwhile no anomaly of heart, lungs, or kidneys. Quinin was then stopped, and fluid extract of ergot given in six, after five days, in five, after ten days, in four, daily doses of 10 minims each. On and after October 7th, no attack of fever; on the 10th the spleen could no longer be felt. Ergot was continued to November 15th, and Fowler's solution and syrup of the iodid of iron were given from October 15th to the end of the year.

CASE IV.—Mrs. M., thirty-one years old. In moderate health until the summer of 1890, though she lived in East 117th street, New York, a hot-bed of malaria even at the present time, until August when she moved to Brooklyn. The only exception to her average health consisted in neuralgic pains of uncertain duration, and at irregular intervals. Left hemicrania she had had for years, neuralgia of the left upper extremity during the summer; and for several weeks before she presented herself on November 24, 1890, neuralgia of the right lower extremity, posteriorly. This pain grew worse from slight pressure; deep pressure would diminish it. She had an extensive and loud systolic, a mild diastolic murmur, no enlargement of the heart, pale lips and conjunctivæ, and a small pulse of eighty. She had suffered from chills and fever since September; the tertian type had changed into the quotidian after a week; later she had two attacks a day. They would intermit now and then after heavy doses of medicine. During the previous fortnight she had taken 400 grains of quinin, and had almost daily attacks; she had a chill with a temperature of 104.4° F. in my office. Her spleen was 15 cm. long, 8 cm. wide, and sensitive over such of its surface as could be palpated. She was ordered to go to bed for at least a week, and to take 0.5 of calomel; at the same time a teaspoonful of Squibb's fluid extract of ergot four times a day in whisky and water. When after three days her chills continued, the dose was given six times a day, and no chill occurred after the fifth day until she presented herself on December 3d, nine days after her first call. Her spleen was 3 cm. shorter and less sensitive. She then was ordered 0 75 of sulphate of quinin once every fifth day in the forenoon, and the ergot was continued in the same doses. On Decem-

[1] Dr. E. R. Squibb, in a letter dated September 21st, has kindly informed me that it was first prepared by Professor Wm. Procter, Jr., of Philadelphia in 1857 ("Proc. Amer. Pharm. Asso. for 1857," p. 130, and 1859, p. 271), and by himself since 1859.

ber 7th she had a slight chill while still in bed in the morning. On December 10th, the ergot was reduced to 15 c.cm. a day, in four doses; on the 20th to 10 c.cm. On that day her spleen could still be felt slightly below the ribs. The quinin was continued to about the middle of January, the ergot another month afterward. At the same time, from December 20th to the end of January, she was given iodid of potassium, 5 grams, three times a day.

CASE V.—M. H., twenty-six years old. Was admitted November 11, 1897, and discharged December 6th. Was a moderate drinker and not venereal. Had no previous sickness. After a two-weeks' sojourn in the South in September he had one morning a chill which lasted one-half hour, and was followed by perspiration. Such attacks he had every other day for two, then every day for three weeks. Quinin was taken and the type of his fever became tertian again. Lately, while he was still taking quinin,—mostly, he said, when the chill came on and enough to affect his hearing,—the type of his fever became mixed, sometimes every day, sometimes every other day, with a few intervals of some days. On the 11th of November his temperature was 100.4° F. at noon; a chill came on at 2 P.M., with a temperature of 103.2° and 104.4° F., which sank gradually. His spleen was quite tender on pressure below the ribs, and up in the seventh intercostal space, and was about 13 or 14 cm. long, as revealed by percussion. Plasmodia were found in large numbers. Squibb's fluid extract was given in four daily doses of a teaspoonful (4 c.cm.) each. The highest rectal temperature of November 12th was 100.8° F. at 2 P.M., of the 13th, 99.4° F., of the 15th, 99.2° F., 16th, 99.8° F. No chills. Did not feel quite well on the 20th, and was given a few teaspoonfuls of sodium sulphate. Highest temperature 99.6° F. at 8 P.M. Because of indigestion, with coated tongue, took sulphate of magnesium on the 21st. Temperature 101.2° F., but no chills. Spleen smaller, less sensitive, plasmodia still found occasionally. Highest temperature on the 22nd, 101.8° F., on the 23rd, 102.2° F., on the 24th, 101.8° F., on the 25th, 100° F., on the 26th, 99.8° F. During all these days he never had abnormal temperatures like those he exhibited while under the uncontrolled influence of his malaria; but normal they were not. Evidently the rise extending over days was due to an additional, probably, gastric influence. About this time plasmodia disappeared from his blood. He remained under observation more than a week, and was then discharged.

CASE VI.—T. B., twenty-eight years. Admitted May 10th. Had had syphilis nine years before, gonorrhea several times; was otherwise healthy with the exception of slight colds; drank "some." His feet had been swollen a little for seven months. During the previous three months had had chills and sweats, off and on, he said. Took a great deal of quinin, almost daily, which helped him. Temperature on admission 101.4° F., pulse 118, respiration 28; pallor, anemia. Sibilant and sonorous breathing over both lungs, anteriorly, breathing diminished over base of left lung posteriorly, with subcrepitant râles and dulness. Liver flatness from sixth rib downward to below the costal border; the organ was felt nine centimeters below it in the parasternal line. Spleen extended from the seventh rib in the axillary line to the crest of the ilium and to within 2½ centimeters of the median line. No edema, no ascites; kidneys negative; axillary lymph bodies slightly enlarged. Plasmodia found pigmented, flagellated, segmented. Fluid extract of ergot 4 c.cm. four times a day on and after the 12th of May, preceded by a dose of calomel and sodium bicarbonate on the 10th. May 15th: no chill since; no diminution of size of spleen, which feels a little softer. May 23rd, was up and about all the week; no paroxysm, spleen softer, no flagellated and no segmented plasmodia. Had no paroxysm to the end of the month; at that time no plasmodia, and spleen was less tense and shorter by almost three centimeters.

These cases are selected almost at random from my records; a great many were never recorded, since my experience with the drug was no longer doubtful. In connection with the subject I may here state that my success with ergot in chronic and relapsing malaria encouraged me to try it in many cases of acute malarial infection. I am certain that many such cases will respond to the action of ergot, but in the average case less rapidly than to that of quinin. Indeed, these experiments were made for the sole purpose of observation.

CONCLUSIONS.

1. There are cases of chronic intermittent fevers with large tumefaction of the spleen, that after having resisted the action of quinin, arsenic, methylene blue, eucalyptus, and piperin are benefited by ergot.

2. When enlargement of the spleen is not old and not firmly established the contracting effect of ergot is noticed within a reasonable time.

3. The attacks will disappear before the diminution in the size of the spleen is very marked.

4. Though temperatures, after the employment of ergot, remain irregular and now and then somewhat elevated, chills, as a rule, are not noticed with this elevation.

5. Plasmodia do not seem to disappear from the blood so rapidly as they do after quinin, when the latter is effective. But even while some are still present, the attacks being more or less under control, the patient will feel better.

6. Complicating local pain requires additional treatment with ice, or cold douches, or heat; chronic hyperplasia demands iodid of potassium or iodid of iron. Digestive disorders may indicate, as they often do, when quinin is expected to act,

before the employment of ergot, an emetic, or a purgative, or stomachics.

7. An experience extending over forty years in which I have used ergot in many instances, justifies me in asserting at least this much: that there are many cases of chronic malaria, apparently intractable, that will get well with ergot.

8. There are cases, occasionally, in which the return of elevations of temperature after the successful use of ergot makes the combination of ergot and quinin, or ergot and arsenic advisable, though quinin and arsenic had not been successful previously.

9. Ergot, like quinin, probably by its sudden contracting effect on the spleen, and by the forcing of large quantities of plasmodia-laden blood into the circulation, is, in chronic malaria when hydremia and spleen tumor are excessive, capable of bringing on the very first attack of chills and fever.

10. Recent cases of malaria have got better, or were improved under the extensive use of ergot, but many resisted a long time; that is why acute cases should rather be treated with quinin.

Discussion.

Dr. Beverley Robinson of New York said: If we look back I think we must all be of the opinion that probably blood-vessels in the different organs are affected; they seem to have a notable effect upon the malarial condition and, I should imagine, through the diminution of the size of the spleen in old malarial cases. The probability is that quinin does have some contracting influence on the spleen itself in addition to any particular effect it may have upon the blood. With that I can understand that there is a rational view with regard to the action of ergot in its effect on the size of the spleen, and when the spleen comes to be contracted the malarial condition is fatally affected.

I would like to speak of something that I am extremely interested in, and hope some of the gentlemen present will be good enough to give their opinion. In a paper before the New York Academy of Medicine I called attention to the use of the tincture of bark in repeated doses and spoke of cases in which it had been notably useful. The cases were pretty closely observed in hospital wards and in my practice outside. If any of you have not read Huxham's original work on the treatment of fevers, and his remarks with reference to the treatment of malarial fever, I think you will be very much interested. It was published more than a hundred years ago and he gives the formula now used. He attributes a certain amount of merit to snakeroot. I believe we are getting away from facts which are of very great value. We are disposed to believe a little too much in using our alkaloids, because they are useful and are so easily administered. The bark itself is of very great benefit. I think there is a rational basis of belief that the bark itself will be of use in removing the poison of malaria. The bark must be given in many of these instances if one wishes to secure the best effects. I would refer to one preparation by a firm in the West, Parke, Davis, & Co. Compound fluid extract of cinchona is nothing more than the compound tincture of cinchona with five times its strength, so that if one gives 5 or 10 minims of the compound cinchona he is giving five times the strength of the tincture. I have found it a very useful way of giving the bark and have obtained very good effects from it.

Dr. R. G. Curtin of Philadelphia said that the treatment of malaria by ergot would be a valuable addition to any specific treatment, by not only helping to keep down the size of the liver and spleen during the acute attack, but also by preventing the subsequent chronic enlargement of these organs.

Dr. Judson Daland of Philadelphia said: I have listened with great pleasure and profit to the remarks made by Dr. Jacobi in reference to the action of ergot in malaria, and I was especially interested in the observation regarding the influence of the drug on the spleen. In regard to those cases of malaria uninfluenced by quinin, so far as Philadelphia is concerned, we have very few cases that do not yield to the action of this drug. Along the Gulf States, more particularly in Louisiana, I am informed, a number of cases have occurred in which quinin has not exerted its usual beneficial effect.

One year ago while in Tiflis, at the Civil Hospital, Professor Gurko informed me that frequently they receive cases of malaria from the neighborhood of Batoum, on the Black Sea, which are influenced by large doses of the bichlorid of quinin administered by the mouth and hypodermatically. He stated that in the few months preceding he had treated in this way six cases. The cases had been accurately studied, the parasite had been pictured, and these pictures were shown me, and of the six cases five had resulted fatally. He also stated that many of these patients present symptoms of typhoid fever before the parasite is found in the blood, but other examinations have showed the affection to be malaria and not typhoid fever.

The use of quinin in malaria as we see it in Philadelphia sometimes fails to give results in cases unquestionably malarial, for several reasons. I recollect two such cases in the Philadelphia Hospital where the patients had malaria as demonstrated by the presence of the plasmodium in the blood. Quinin was given in sufficient quantity, but most of it was recovered in the stool, and I have no doubt that in many cases of malaria the quinin is either insufficient primarily, or the pills are old and hard and only partially dissolved, or it is in capsules that are old and pass the pylorus and probably escape in the feces without the organism being impressed with this salt of cinchona. With the detection of the plasmodium of malaria, the number of cases of malaria in Philadelphia has rapidly decreased, until at the present time, except those cases coming from the Eastern Shore of Maryland and other malarial points, the disease is practically a rare one, and on an aver-

age in not one case in ten that are examined where the diagnosis of malaria has been made has it been verified by an examination of the blood.

Reference was made to the time of giving the drug, which is a matter of some importance, and it would seem as though, from what we now know of the disease, that the plasmodium is most exposed to the antidotal action of the quinin at the time when it has become the matured malarial body, floating free in the blood. It is quite evident that when the plasmodium is within the red blood-corpuscles quinin in solution in the plasma will not be able to exert its antiperiodic effect, but when the body breaks through the envelope of the red cell and enters the circulation quinin promptly destroys the parasite.

I would like to call attention to one case which unquestionably would have ranked a few years ago as a case of malaria. The patient had intermittent fever, occurring daily with the customary symptoms of the paroxysm. Examinations of the blood, urine, and viscera gave negative results. Examinations were repeated. The urine showed no change. The autopsy showed suppurative kidney with calculi impacted in the ureter. It would seem as though these calculi temporarily occluded the passage of urine from the diseased kidney, but when the accumulation of urine became considerable, dilatation of the ureter took place, and partial escape of the contents occurred. The urine that upon examination gave negative results was probably secreted from the healthy kidney, while there was temporary obstruction of the left ureter. No distinct tumor could be found, although while examination was interfered with by the obesity of the patient, swelling was detected in the left renal region.

Regarding the action of ergot upon the essential poison of malaria, I doubt very much whether it has this effect. I personally have not had much experience in the use of this drug, for the reason just stated. As a rule, the disease as presented in Philadelphia yields to quinin. The poison that produces the paroxysm seems to be the result of the gradual maturing of the parasite of malaria, and at the moment of its maturity there seems to be thrown into the blood a chemical poison, this seeming to initiate the paroxysm, and I doubt whether ergot has any special influence over this low form of animal life.

Dr. Didama of Syracuse, N. Y., said: I live in a region which used to be swampy, and chills and fever were prevalent. Nearly forty years ago physicians treated the cases there by first giving something, such as calomel, to prepare the system to take the antidote of the poison. We knew nothing about bacteriology at that time. I could not see why we should not give an antidote at once, and so at that time I commenced giving that which I have been giving ever since. There was a tendency for the chills and fever to return in about seven or fourteen days. Then in order to prevent that return I thought I would repeat the medicine about every six or seven days, so I would give the patient ten or eleven powders, each one containing 4 to 5 or 6 grains of quinin with piperin and some sulphate of iron. I have never varied the size of the dose from that day to this. The patients took the powders without any reference to what time of day the chill occurred. They took one in the morning and one in the afternoon or toward evening. A few of these powders were put up in blue papers, and the patient was to take one of these every Sunday morning for three or four Sundays. The men kept at work as usual, but there was no return of the disease that season. The next season they might have it again, and it was cured in the same way. I have had from 200 to 250 cases a year. Patients in Michigan took the same medicine with the same result. There were some cases which I did not see early enough. In those cases of chronic malarial poison with enlarged spleen this treatment does not act as well, and I am glad that Dr. Jacobi has told us what he has about the ergot in eliminating the poison from the spleen.

Dr. Jacobi, in closing the discussion, said: There is no doubt that there are cases of malaria which do resist quinin, as there are cases that do resist arsenic, or quinin and arsenic together. I have seen them. If any man says he has not seen them (a great clinician whom I much admire rebukes those who do not succeed with quinin in every case), that is his luck and not mine. The spleen, of which we know almost nothing as yet, has certainly a great influence in harboring germs and in being the cause of the relapses not only in malaria, but in other diseases. I remind you of what we can all see in typhoid fever. I know that in a case of typhoid fever in which on the sixteenth or seventeenth day the spleen does not diminish in size there will be a relapse, or rather a continuance of the illness. In those cases in which the spleen diminishes in size about the sixteenth or seventeenth day, one is fairly certain that with the usual care there will be no relapse. That is one of the instances of which I can feel tolerably sure as a matter of experience, which is, that the spleen certainly has a great deal to do with the relapses of typhoid fever. So in malaria; if I succeed in reducing the size of the spleen within a reasonable time I feel sure that the malaria is under control, but in fever districts in the South as in the North, in the swamps, there are cases that will not easily get well. There are also those very obstinate cases in which the spleen grows very slowly for weeks and months, until finally cachexia is the first, and the "chill and fever" only the second, symptom. These cases are very apt to resist the influence of quinin. The practice Dr. Didama speaks of, of giving calomel before giving quinin, and getting the stomach in good order, is a very good one, mainly in these old cases. There are those in which quinin will not act until the stomach is put in good condition for absorption, by a purgative or otherwise; sometimes by an emetic or irrigation of the stomach, always by stomachics.

Regarding the preparations that I have used, I can say that I have not given a single sugar-coated pill for thirty years. I seldom prescribe drugs even

in capsules, because I know capsules may pass through the intestinal tract. I generally use powders in preference to anything else because I feel tolerably sure the quinin will then act. I order solutions only for those who do not mind the taste.

To-day I simply state to you my observations made during forty years or more, that there are cases of malaria which, after not getting well with quinin or with arsenic, do gradually get well with ergot. Now, there is no reasoning against that. If you always cure your patients with quinin only so much the better for you. I did not always succeed. In my failures I often succeeded with ergot. If some one does not see why that should be so I cannot to-day disperse his doubts. It is not the first time nor the last that empiric facts have collided with our insufficient information, and that theoretic reasons would come limping behind actual observation. I have tried to suggest the way in which ergot may prove effective in malaria; maybe a better interpretation of its action may be found. I believe I am on perfectly safe ground when I display my clinical observations, which, as I said, extend over forty years.

THE USE OF OBSTETRIC FORCEPS WITH REPORT OF TWO CASES OF INVERSION OF THE UTERUS.[1]

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Probably no one subject is of greater interest to the general practitioner than that of how to handle difficult and tedious cases of confinement to the best interests of his patient. Not all physicians are adapted to this art; due to the fact that some do not like the work, and others lack confidence in their own ability. Many physicians abuse the use of forceps by applying them when not indicated, and producing serious damage to the mother as well as to the child. To properly understand the use of the instruments one must make a careful study of the different presentations of the child, as well as the peculiarities of the patient, such as stenosis of the cervix and deformity of the pelvis, abnormally developed fetus, etc. In normal labors with a roomy pelvis and a normal fetus, we do not need the assistance of forceps but do better by letting Nature take its course with occasional manual aid such as support of the perineum, slight pressure over the uterus, etc. But the question pregnant with vital interest to all practitioners is how to handle abnormal cases. This is a question of great importance, but how often do our authors neglect to give us a complete detail of how and when to act, and pass the subject almost unnoticed, especially as to its main technic! How many of our college graduates are there who do not know how to use the forceps correctly? How many there are who do not look after the sanitary condition of the lying-in-room, or the cleanliness of the bed and person of their patient, or in fact of their own personal cleanliness!

Now what are the indications for the use of forceps in confinement? (1) A small or irregular-shaped pelvis; (2) a large child and an abnormal presentation; (3) an alarming hemorrhage; (4) signs of failing strength or exhaustion; (5) convulsions; (6) when the presenting part becomes fast in the pelvis and labor pains are ineffectual; (7) when the interest of the mother and child requires a speedy delivery. All these propositions are, however, subject to the limitation that in the selection of the mode of delivery choice should be made especially looking to the maternal safety. Fortunately in the majority of the cases the interest of the child and mother are identical.

In preparing for the use of instruments it is always best to place the patient crossways of the bed, to elevate the head slightly and have the hips well over the edge of the bed, to wrap the limbs in a clean sheet or towels, then have a capable assistant give an anesthetic (chloroform preferable), while you carefully cleanse your hands and prepare your forceps. When the patient is fully under the anesthetic dip your forceps in hot water to remove the chill of the steel and anoint the blades with antiseptic ointment, and having determined the location of the head, apply your forceps so that they will catch it laterally. The blades should be applied by introducing the left blade first, allowing the fingers of the right hand to act as a guide to see that the walls of the uterus are not caught between the forceps and the head of the fetus, and also that the forceps are properly adjusted to the head. Then introduce the right blade, guided by the fingers of the left hand and when properly in position the two blades are easily locked. When the forceps are properly adjusted and locked the next step is to apply traction, which is best done by placing the right hand on the handle of the forceps palm downward, and grasping them by means of a finger on each side of the handle, and the left hand underneath, palm upward. It is advantageous to introduce the fingers of the left hand into the vagina occasionally to determine the position of the forceps, the location of the head of the fetus, and to estimate the amount of pressure on the child's head during traction. Steady traction is always preferable to the pendulum or rotary motion and especially is this true when the rotation of the head is incomplete. Pressure by a skilful assistant on the abdominal walls during traction is here, as in other obstetrical

[1] Read at the Forty-seventh Annual Meeting of the Iowa State Medical Society, held at Des Moines, Iowa, May 18, 19, and 20, 1898.

operations, an adjuvant of great value. Traction should not be too prolonged and when not made in unison with the pains they should not exceed two minutes in duration. The head should then be allowed to recede, for haste in delivery exposes the patient to danger of laceration and post-partum hemorrhage.

The alternate descent and recession of the head afford the best means of softening the external parts and overcoming rigidity; and as the head advances time should be given for the uterus to contract upon its contents, for when the pains are deficient the contractions, after too sudden emptying of the uterus, are apt to be improper or of short duration. Traction should at first be made downward until the head has descended well below the symphysis pubis; then horizontally until the occiput appears at the vulva. If in doubt as to the direction of traction hold the handles loosely in the hand during a pain to serve as an index of the proper time for traction. If rotation has not previously taken place you can aid it with the forceps, but it usually takes place as the head descends. When the parietal bosses are in the act of passing the vulva, traction should no longer be made. The operator should now stand to one side of the patient with forceps in one hand, and the other pressing against the perineum. Then during intervals of pain, by alternately sinking and raising the handles, the perineum and vulva can gradually be dilated. So soon as the convexity of the perineum is marked and the parietal bosses press on the commissure, it is best to sink the handles during a pain so as to flex the head to its greatest extent and cause if possible the vertex to present. When the vulva is sufficiently dilated raise the handles toward the abdomen, complete the extrusion of the head and complete the delivery. Some authors advise the removal of the forceps before the head is delivered and as soon as you can grasp the chin with the index-finger introduced in the rectum, but I prefer to leave the forceps adjusted until delivery of the head is completed, and find great advantage by placing two fingers over the forceps and under the symphysis pubis as a fulcrum around which the blades can be safely rotated.

I am not much of a believer in the high application of the forceps when the head at the brim is yet really movable, but would in these cases recommend version because it is more easily done and a much safer procedure, yet there are cases where this cannot be done. In these cases I would advise the forceps of M. Tarnier. In the high operation the finger should always guide the blades between the cervix and the child's head with greatest care, so that if possible, the head may be seized in the transverse diameter, instead of applying the forceps regardless of the position of the child's head. As a rule it will be found under the conditions mentioned that the head has been seized obliquely, *viz.*, with the posterior blade over the parietal prominence and the anterior blade near the coronal suture. In this case you cannot closely approximate the handles, and you should only use enough compressive force to keep the forceps from slipping. To adjust the lock often requires considerable patience and in many cases a great deal of pressure, even when the forceps have been applied by strictest rules of the art. It will not infrequently be found that the upper border of the anterior blade and the lower border of the posterior blade will project beyond the scalp-tissue and unless managed with great care the exposed edges are liable, during extraction, to cut deeply into the tissues of the parturient canal. When the os is only partially dilated, the forceps should be used, not as extraction instruments, but simply to bring the head down against the cervix to expedite dilatation. In this great care should be taken during a pain to see that there is not too much tension upon the firm and unyielding os externum, and thus avoid a troublesome laceration of the cervix. When dilatation is complete and the head is brought down into the outlet of the pelvis the mechanism is the same as in other cases.

In cases of occipitoposterior position it is always best to refrain from using forceps as it prevents rotation, yet there are cases in which it is justifiable, *viz.*, when speedy delivery is required for the welfare of mother or child. In these cases it is best to apply forceps to the sides of the child's head and to imitate the mechanism of normal labor in posterior positions. If the sagittal suture occupies an oblique diameter the forceps should be applied in the opposite oblique diameter, as the occiput should be rotated into the hollow of the sacrum. Then the lines of the traction are the same as in the vertex, only that the face instead of the occiput rotates under the arch of the symphysis pubis. In face presentations when the presenting part is deep down in the pelvis and the chin has rotated to the front, application of the forceps is easy and does not differ materially from the procedure in presentations of the vertex. Traction should then be made horizontally until the chin has been brought well under the symphysis pubis, when the handles should be raised to lift the cranial vault over the perineum and thus prevent serious laceration. In the oblique mentoposterior positions, Speigelberg recommends the introduction of the posterior blade first or the one corresponding to the chin, as in adjusting the second blade and locking the forceps, spontaneous rotation nearly always

takes place. In deep transverse positions defer the use of forceps as long as possible as a tardy rotation of the chin to the front is a physiologic peculiarity in face presentations. In all these cases the forceps should be applied obliquely with the concavity of the forceps directed toward the chin. Then try to rotate the chin to the front, but if you fail to rotate the chin to the front, traction should not be made, but if you succeed in rotating the chin to the front the forceps should be unlocked and readjusted to the lateral surface of the head to prevent pressure being made upon the neck and throat.

In high transverse positions forceps should not be used as rotation is not then permissible and the blades applied to the neck and thorax on one side and upon the cranium on the other, separates the handles so far that the pressure necessary to keep the blades from slipping is so great that you cannot deliver the child without causing death or great injury. The choice in such cases requiring speedy delivery lies between craniotomy and version, the choice of which depends upon the conditions existing in each particular case.

In breech presentations where no alarming symptoms exist for mother or child, the attitude of the obstetrician should be one of watchful observation, for as a rule the results to the child are far more favorable when Nature does the work unaided, yet the physician should always be on the alert to meet successfully by interference any cause which may produce a delay in breech presentations. The delivery in breech presentations consists of three stages: delivery of trunk and body to shoulders; delivery of arms; delivery of head. The first stage extraction of feet and breech should be made slowly, giving time for contraction of the uterus. The second and third stages should be finished as rapidly as possible and much the same rules must be followed as in vertex presentation, using instruments only when absolutely necessary.

This, in brief, is the mode of using forceps in labor. But much depends upon the cleanliness of the patient's bed and antiseptic precautions of the surgeon as to the recovery of the patient and after-health of the mother. Always wash the parts with an antiseptic solution before applying the forceps; thoroughly cleanse your hands and arms; prevent any infection from your clothes by wearing a sterilized gown; wrap the patient's limbs in wool and cover with clean sheets to prevent infection, and also to keep the extremities warm; have the patient placed crossways of the bed with the hips well over the edge of the bed, with a clean sheet under and over them. Two assistants, one on each side to hold the limbs, and a competent person to give chloroform and you are in readiness to proceed to apply forceps and deliver the child. In a case thus handled and with these precautions the use of instruments is attended by little or no danger to mother or child, in fact it is not so dangerous as to wait until the patient is exhausted or until injury has taken place to soft parts by too long continued pressure caused by the presenting part of the fetus. Hence I should recommend the use of forceps whenever the presenting part becomes fixed and the pains no longer have any effect upon forcing the fetus through the parturient canal or where the secretion of the vagina has ceased and the parts become dry and feverish, when there is no hemorrhage, convulsions, or marked exhaustion of the mother. If we will only follow these precautions, forceps will not be looked upon with fear but will be hailed as a welcome boon to women in labor.

In conclusion allow me to report two cases of inversion of the uterus. This complication is of very rare occurrence, therefore I deem it of sufficient interest to the obstetrician and practitioner to report briefly the two cases which it has been my lot to see. It is one of the most serious accidents that can befall a woman in labor. The inversion may be complete or incomplete; may occur at the third stage of labor or a few hours after labor. Of the cases I wish to report, one was in my own practice and the other in that of a midwife. The production of inversion may be favored by a large relaxed uterus, the result of over distention, of rapid delivery, or hemorrhage. The immediate cause may come from pressure exerted from above or traction from below. It may come from straining, especially in the kneeling position, or from attempts to expel the placenta before uterine contractions have been secured. It may come from a short or coiled cord during labor, from too much traction on the cord after the fetus is born, or from the weight of the placenta itself, and especially is this true when the placenta is attached to the fundus instead of the lateral wall of the uterus. In incomplete inversion you have the saucer or cup-like shape of the fundus. In complete the fundus comes down into the vagina and may protrude through the vulva, the cervix being inverted to its vaginal attachments. The symptoms are shock, hemorrhage, pain, restlessness, pallor of face, a quick pulse, syncope, etc. Shock is marked by small pulse, cold extremities, vomiting, and sunken features. Spontaneous reductions of both incomplete and complete inversion have been reported, but are not very common. The diagnosis is easy for the condition can only be mistaken for a uterine polypus. Prognosis depends upon the promptness of the operator in returning the fundus

to its normal position. Yet, according to the statistics of Crosse, one-third die either at once or within a month of the accident. Treatment consists of pressing the fundus up with the closed fist, counter pressure being made with the disengaged hand upon the upper border of the funnel-shaped depression. If the placenta is detached to any great extent it should be removed before attempt is made to replace the uterus, but if adherent, lose no time, but push the placenta and fundus back together.

CASE I.—After several years of practice, I saw my first case of inversion of the uterus about one year ago. I was hurriedly called to see Mrs. L., primipara, aged twenty-two years, some nine miles in the country. She had been in labor thirty-six hours, and was being attended by a midwife. When I arrived at the house, members of the family and attendants ran out, saying the child was born but the lady was dying. I went in, and found her pallid, nearly pulseless, and suffering from a frightful uterine hemorrhage. An old midwife standing by said, "You must hurry up, doctor, this lady's insides are coming out." I pulled off my coat, rolled up my sleeves, and not waiting to use any antiseptic, made an examination. I found the uterus already protruding from the vulva. Here I was, without any assistance (of any consequence), and my first case of this kind. I saw that I had to act and act quickly, so I placed my left hand over the abdomen, and with my right hand against the fundus of the uterus I began making the uterus retrace the same steps it had taken to reach the condition in which I found it. I finally got the fundus replaced to its normal position, and with one hand in the uterus, and using Crede's method with the other over the abdomen, I finally got a firm contraction of the uterus. While doing this I had the patient given whisky and ergot freely, and as soon as I got contraction I gave her ergotin and strychnin hypodermatically. The patient made an uninterrupted recovery. I used copious injections of hot water and bichlorid solution, gave tonics, and a generous diet. In this case the midwife had killed the child, and had pulled on the cord until she tore it loose from the placenta, and said that the reason the lady was so sick was that she had no afterbirth.

CASE II.—Mrs. M., multipara, aged twenty-seven, was delivered of a hydrocephalic fetus by instruments. The case progressed nicely until the body of the child was passing through the vulva, when a severe hemorrhage occurred. I delivered the child as soon as possible and cut the cord, which was only eight inches long. By this time the patient was pallid, pulseless, cold, and, in fact, in a state of complete collapse. I had my assistant give whisky, strychnin, and ergot hypodermatically at once, and when I attempted to get contraction of the uterus by manual aid I found to my surprise a case of inversion of the uterus, with the placenta well loosened. This I hurriedly removed, and at once proceeded to replace the fundus of the uterus to its normal position by means of pressing the fingers of one hand against the fundus uteri and the other over the hypogastric region of the abdomen to prevent the rupture of any of the parts from the force being applied from below. I was able to quickly replace the fundus, and allowed one hand to remain in the uterus a few seconds, producing contraction by Crede's method, and by the hand in the uterus. When the contractions were sufficient I withdrew my hand slowly to prevent a recurrence of the trouble. The uterus was then washed out with a hot bichlorid solution 1–3000, followed by hot sterilized water. The patient was given a dram of ergot every four hours, tonics, whisky, and well-regulated diet. She made a complete recovery in four weeks, and there is no lesion to mark the occurrence of the accident.

In my first case the fundus was replaced without any anesthetics or assistance (of any consequence); in the last chloroform was used. But when the patient is wholly unconscious and nearly lifeless an anesthetic is not so essential as is speedy work of replacement. Yet, while I was successful in these two cases, I have no desire to see another. The after-treatment should be much the same as in atony of the uterus in post-partum hemorrhage. By carefully but firmly indenting the fundus with one hand and making counter-pressure with the other over the ring-like neck above, carrying the hand up through the os into the normal cavity of the uterus, not only can the reposition of the fundus be secured but it can be maintained.

ADDRESS.

THE GENERAL PRACTITIONER.[1]

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IT has often been said of the essayist or lecturer, "Given his subject and his task is half accomplished." I may be said to be in that fortunate position, because you have been good enough to select my subject for me. On the other hand, this method implies difficulties which are peculiar to it. It may be that with the subject set, a special mode of treatment is expected which the speaker may not hit upon. I may disappoint you in this respect, and should I do so, it will, unfortunately, be too late to mend matters except so far as my extreme regret can atone for any shortcomings.

At the outset we are met with the question, "What constitutes a general practitioner?" Clearly in the broadest sense, he is one who shrinks from no service which belongs to his art. He is at once physician, surgeon, obstetrician, gynecologist, ophthalmologist, in a word, anything which has received a title in the differentiation of professional work. Yet it is evident that it is not pos-

[1] Delivered at the Eightieth Anniversary of the Founding of the Gloucester County Medical Society, September 15, 1898.

sible for any one man to fulfil the requirements of all these offices as demanded by modern medical science and art. Very different was it a hundred years ago. Then one man could do quite all that could be expected of him. Even at that date the larger cities contained men who were especially distinguished for operative skill who did little else but surgery. Such men in their day were Sir Astley Cooper and Sir Benjamin Brodie. Yet the entire field of medicine was reasonably considered as within the province of one man. It is evident, therefore, that some latitude must be allowed in defining the duties of a general practitioner of to-day. Casting about us for the field actually filled by him, we find he is one who practises first of all medicine in its broadest sense, including not only the diseases of children, but also skin diseases. He practises midwifery. In surgery he, for the most part, limits himself to minor surgery, while he is repeatedly called upon to prescribe for the simpler affections of the eye and ear. The more complicated technic which modern medicine has imposed upon the proper treatment of diseases of the nose and throat, demands vastly more time and trouble than the older treatment of these affections, and yet the general practitioner cannot escape it if he would retain his practice, though in the cities this department is largely becoming an exclusive province. It is more than likely, however, that time will simplify the treatment demanded by these diseases. From the surgery possible to the general practitioner, orthopedics is practically excluded, while genito-urinary affections necessarily fall within his province. As intimated, in the cities the major operations of general surgery are practically withdrawn from the field, but in the country this cannot be so, else must life often be sacrificed. The same is true of major surgical operations now placed in the department of gynecology. Hence the term "general practitioner" must include more in the country than it does in the city. The general practitioner of the city is more limited in his work, as much by the will of the patient as by his own selection.

To sum up, then, the general practitioner of the present day is, in point of fact, a man who practises all the departments of medicine as distinguished from surgery; who practises midwifery, surgery, and gynecology, except the major operations demanded by it and by surgery, and who treats also the minor affections of the eye and ear. While this is practically true of the general practitioner of the city, the field must be extended in the country to include all operations, delay in which is dangerous to life. And it is the general practitioner in the country, I take it, you have in mind when you ask me to treat the subject. It is in the country only, in fact, that the general practitioner in the truest sense can be met, so that in a word the general practitioner is the country practitioner. As such, I am inclined to think, too, that the correction of the simple defects in refraction, and the prescription of glasses should fall to his lot. I see no reason, at least, why he should be excluded from this source of revenue. Thus it will be seen that, view it as we may, the field of the general practitioner is a broad one.

Having described the field of the general practitioner, we naturally come to consider his qualifications, and it may be that I will surprise you somewhat in what I shall include among these. A moment's reversion, however, to the numerous duties I have assigned him will make it evident that his attainments to be commensurate, should be correspondingly broad. I have more in mind, too, than that his attainments shall simply fit him for these duties, remembering that the object of life is something more than the simple fulfilment of duty, and that health, happiness, and enjoyment are a heritage to which the physician is as much entitled as other men. To this end I consider that the general practitioner should have the broadest preliminary culture attainable. Much more than the specialist would I clothe him with a broad general culture. I would have him college-bred or the equivalent of college-bred. I would have him able to at least *read* Latin, French, and German, while if he chose to include in his preliminary education the now much-despised Greek, I should regard him as no less fitted to fill the important rôle I have set for him. I would have him well drilled in physics no less than in chemistry, for no one is qualified to understand the problems of physical diagnosis, as set by diseases of the circulatory and respiratory systems without a thorough knowledge of acoustics and hydrostatics, while with such knowledge their understanding is comparatively easy. Equally too, would I have him versed in the natural sciences—botany, mineralogy, comparative anatomy, and zoology—a biologist in the broadest sense of the term; for through such attainments I expect to add to his pleasure as well as to his usefulness, to make his otherwise lonely drives and walks holiday excursions pleasurable and profitable. I would have him well-read in the standard literature of his own and foreign languages, the latter not, of course, in the original, but in the excellent translations which abound; for I acknowledge that the general practitioner has a limit to his capacity for attaining and remembering, but I insist the more on his getting as much knowledge as possible of this kind before entering on practice because while he still may have time to enjoy it after he enters on professional life, he may not have time to acquire it. In a word I would have him equipped with all that will make him accomplished, ready, and versatile, with a view to enhancing his own pleasure and enjoyment, that he may appear the equal as well as the superior of those with whom he mingles socially and professionally. He should be at least the intellectual equal of the most intellectual of his community, the man to whom young and old alike will go for information on subjects on which they are in doubt, as well as for treatment of their physical ills.

On the details of his professional education I need not dwell long, for it goes without saying that he should have the best his money can obtain. Nay more, if he has not enough money to obtain the best let him defer it until he can raise more, if money be the measure of its quality. For a cheap medical education is like a cheap garment; it may serve its purpose for a short time but it soon needs repairs, the ultimate cost of which will far exceed that of a good one, while it is an ever-growing disappointment to its possessor. No medical man needs a broad and

thorough medical training so much as the general practitioner, for no one has such varied demands upon him, no one is so constantly thrown on his own resources. To this end hospital residence in a general hospital for a year at least after graduation should be secured when possible. He should be familiar with the use of instruments of precision such as the microscope, ophthalmoscope, apparatus for the examination of the blood and the testing of ths urine, as well as with the stethoscope and laryngoscope.

We are now ready to locate the general practitioner. Equipped as he has been, he may locate in any community he chooses without fear that he will appear at a disadvantage compared with other citizens of the same town. We will not follow him in the selection of his home, for this is a personality with which we have no concern. His consulting-room should, however, be well appointed with all that will facilitate the examination of patients and the study of disease. A small apartment, or in the absence of this, a corner of this room should be fitted up as a laboratory with the instruments of research and accurate investigation referred to, as well as necessary reagents for such chemical and chemico-microscopical work as he will be called upon to do. Such an outfit is neither large nor expensive, and it is indispensable. A man is much more apt to study a case thoroughly if he is provided with suitable appliances. These should be kept in perfect order, and so placed that no time is lost in getting hold of them for use.

As indispensable as anything in the outfit of the general practitioner and more useful than a horse and buggy, in the days of the bicycle at least, is a neat, bright, quick-witted, intelligent wife. No one but he who has one knows what a treasure such a wife is. Simple beauty of person is something to which one soon grows accustomed. The homely adage that "beauty is only skin deep" is full of meaning, and the qualities referred to make the possessor dearer with every year that elapses. There is nothing that such a wife cannot do. Besides being a cheerful helpmate and loving companion, she will keep our general practitioner's books and help him with his cases, which he will talk over with her, but which she will regard as sacredly confidential. Nay more, she can learn to test urine and even to use the microscope and otherwise help even more than a qualified assistant, because she is actuated by love and a common interest, attributes scarcely to be expected in a paid assistant. On the other hand, nothing is such a drawback to the general practitioner, the man whose work calls him into so many channels, as a careless, slouchy, novel-reading wife. I have known more than one man's life blighted because he was handicapped by such a companion. Nor need he long defer his marriage if she is of the right kind. To marry on nothing is most ill-advised, and I subscribe heartily to the old Greek maxim, "How thrice is he unhappy who marries poor." But the physician who waits until ample means are accumulated before he marries loses the best part of married life, the part to which he will look back with greatest satisfaction in after years of comparative ease and disembarrassment. As soon, then, as he begins to see his way clear to reasonable success, he should marry a sensible, well-educated woman, a little younger than himself.

We now have our general practitioner well educated, thoroughly trained, and well equipped. How shall he attain what is called success? We will not stop to discuss what constitutes success, except to say that it consists neither in wealth nor in power, nor even in health, but in a certain proportion of each of these, fortified by a consciousness of rectitude and the determination to be content with the results of efforts as well directed as he knows how. Then as to what constitutes well-directed effort, no effort of the physician is well directed unless governed by the spirit of the Hippocratic oath; that he will do his best for his patient and sacredly guard the confidences placed in him. We will not ask him to take the oath for we are of a profession that is above oaths, holding that an obligation is as binding without it as with it and that it does not add to the force of such obligation.

We may, however, continue our subject by pointing out some of the methods which judgment and experience have shown to be well directed. First, the general practitioner should establish an office or consulting hour at home and punctiliously maintain it. The office hour is often too much ignored by the general practitioner, and especially by the country practitioner, to whom my mind constantly reverts as the true type of the general practitioner. The most important requirement of an office hour is that it shall be kept. It does not much matter at what time of day it is, so that it is rigidly observed. It is soon found out and greatly appreciated. Doubtless in the country, the evening is more convenient to the patient, but it is important for the success of the office hour that the physician should be fresh and well rested, else the duties of the hour become irksome and are unspiritedly and carelessly performed. Hence the morning is, on the whole, the most suitable—say until nine o'clock or half-past—for your general practitioner must be an early riser as his patients are also likely to be. Then, after his office hours he will still have a long day before him, all of which he will need in order to fill the important and busy rôle we have mapped out for him.

More time still will be gained by a systematic arrangement of work. The busier one is the more important this is. I am certain that at times the general practitioner is too indifferent to this and loses much time in consequence. With an office hour terminating at 9, or at the latest 9.30, he should start promptly on his tour of visits, giving enough time, but not more than enough to each patient. Many practitioners make their visits too long and not only thus lose time, but diminish the respect of their patients for them. Every physician should consider his time valuable, as it really is, because there is always more to do in various directions connected with his present and future usefulness than can be accomplished in a day. He need not, indeed should not, indicate by his manner that he is in a hurry; this is harmful to his interests. On the other hand, he should not loiter, especially should not gossip; for however entertaining or pleasing this may be to the patient, it will not increase the respect of the

latter for him, and may even jeopardize the estimation of his counsel. One of the best pieces of advice I ever had given to me before I began practice, was that of a very dear friend, a lady, who said to me one day, "Doctor, when you begin to practise, do not make your visits too long." She had evidently suffered from the long-drawn-out visits of her doctor. She was a great contrast to another patient, also a woman, of a busy friend of mine, to whom she said when he manifested some uneasiness at *her* prolonged call, "Why, Doctor, you seem to want to hurry me off. My own doctor keeps six horses and he stays an hour at each visit." Further comment is unnecessary.

With work well arranged and no time lost on needlessly prolonged visits, a surprising amount of time will be found remaining over after the daily round is made. The leisure thus obtained should be spent first in clearing up doubtful points in cases by the study of well-selected text-books and current medical literature—his journals. It is surprising how often the attentive reader of journals finds in their pages cases corresponding to his own which will help him to clear them up and often to treat them. On this account the general practitioner should subscribe to at least one first-class weekly medical journal, still better for two published in different cities; though it will be more profitable to read one such journal well than to have two and read neither. It will do him no harm also to subscribe for a journal with a more general scientific purpose, such as *Nature* or *The Popular Science Monthly*. This he may have to skim over but it will still help to keep him interested in natural science. His journals are the means by which he is to be kept in touch with the latest additions to his art and science. One or two magazines devoted to general literature should be found on his table, to say nothing of a good modern newspaper, of which a good abstract of daily news and good editorials should be a feature; for I have already said that our general practitioner will have no time to waste on diffuse and voluminous accounts of events which are contradicted the next day. Abstracts and first-class editorials are what he wants, the latter to be read in the evening if time permits, the former for a few minutes in the morning.

To proceed with our methods, next, or perhaps first, he should make a brief note of at least the important cases seen during the day as far as they may require it. I believe there is no single piece of systematic work which is as useful to the general practitioner as note taking of this kind. It may be said that this is impossible, but it is not. I do not refer to notes of office cases for this is easy. Practice in such noting soon leads to a brevity which greatly facilitates it, and here the loving wife may lend a helping hand, to be replaced by the stenographer as business grows and family cares demand the wife's attention elsewhere. Fortunate is the physician who happens to be a stenographer himself. Much time and space are saved by this accomplishment. One of the most interesting and valuable lectures I ever listened to was by a busy physician who had adopted the method of note taking recommended, not by shorthand, but in the ordinary way. The address was based entirely on notes of cases in private practice taken from the daily note-book to which a few minutes each evening were devoted. Whether such notes are employed for any future purpose or not, the practice is invaluable, leading to systematic arrangement of facts and thought, and developing accuracy of observation which reacts again and again to the direct advantage and usefulness of the one who employs it.

Nor should he omit to spend a few minutes as opportunity offers on current secular literature. A volume should always be at hand which can be taken up when a few minutes of leisure are present. Some one of the numerous inexpensive critical reviews treating of current literature and containing abstracts of the books of the month should be one of the magazines referred to as useful. By means of this he can keep himself informed of what is going on in literature and select the volume to which he is to devote the few odd moments which are always turning up. A volume of poems from an author cast according to the mold of his own taste may be such a volume or be one of two or three which may be at hand to be picked up at such times.

Emphatically our general practitioner should be a member of the local medical society and should attend all its meetings, at first as a listener. For before anything else he wants to win the regard of his fellow practitioners, and he is almost sure to obtain the opposite if he is too ready to seize every opportunity to ventilate his views, which are apt to be regarded as fresh and crude even if they are not. Gradually, as he becomes known by his regular attendance and close attention, he may rise to ask a question or add a few apposite words, increasing their number until he is able to add something from his own experience or even from some other source bearing on the subject. Then he may report an interesting case and ask the views of his fellow members on the subject, and present his own, always modestly and without pretension. Then he will soon come to be a welcome visitor, and later will be wanted to act as Secretary and receive other evidences of the goodwill and confidence of his fellow practitioners which will go to make up the sum of his happiness.

The State and National societies will also claim his membership in due time and it will serve to rub off the cobwebs and keep his mind bright to take advantage of an opportunity of renewing old friendships and mingling with professional friends as well as by listening to papers and discussions. I am not certain that it should be his ambition to attend these latter meetings very early in his career. It will be at least graceful to offer to look after the work of his older confrère while he takes a run to the more distant place of meeting.

But the medical society is not the only place in which he will be brought into contact with professional friends. He will meet them on the road and in consultation, and under all circumstances let his greeting be cordial and his welcome frank and sincere. Jealousies between doctors are the most unjustified of jealousies and yet they are said to be very frequent, especially in the country. I am certain that more than half of these are without foundation, the result of misunderstanding, misrepresentation, hear-

say, and the want of acquaintance. And in the matter of consultation let me give you a word of advice—I say *you* for I believe that most of my audience are general practitioners: Do not be too much in a hurry to call in the consultant from the city. First call upon your neighbor and exhaust the local resources before you send for the specialist from town. You may accomplish as much for your patient, while you will cultivate good feeling and friendship which will react favorably on yourself.

The first duty of the general practitioner is to his patient, but his duty does not end here. He has obligations to the community also in which he lives. My general practitioner, or the one whose picture I am endeavoring to draw, has been educated above the level of the majority of the laity with whom he associates. He has been educated in a direction which gives him knowledge how to guard the health of the community. He should, therefore, take an interest in what concerns it. He should be on the alert to detect violations of hygienic laws, should call attention to such violations and suggest measures for their correction, as well as be ready to advise on matters connected with public hygiene. He should do this in a simple, dignified manner, not ostentatiously or with a desire to exploit himself. It is by attention to these collateral matters so intimately associated with the interests of his patients that he rises above the routinism which hinders his development and prevents his taking the position he deserves among the leaders in his community.

Is the general practitioner to be denied opportunities of social intercourse? By no means. The attainments with which we have equipped him especially adapt him for social relations, and we have seen that it is partly that he may appear at advantage, socially, that we have so equipped him. He will, however, be somewhat limited in this respect. His time is too valuable. I do not see why the general practitioner should not stop for a few minutes in passing the house of a patient for afternoon tea. It will refresh him and brighten him. The same may be said of the evening reception. A prolonged stay at either function he can scarcely afford.

What are the compensations of the general practitioner? The answer to this question depends somewhat upon what meaning is put on the word "compensation." If it means money return then must he often be disappointed, for it is generally conceded that the general practitioner is often poorly paid in money. If, however, he is willing to take as a part of his reward the pleasant consciousness of well-doing his pay is commensurate with his good work. To hold an honorable position in the community and to be looked up to is a privilege for which many would gladly give money, but position such as falls to our ideal is not to be bought. It is only to be obtained from the vantage-ground of the qualifications of the thoroughly educated physician, imbued with the feeling that his calling is a lofty one and that in its unselfish exercise he is approaching a step nearer that estate which has caused him to be compared many times to the gods of heathen mythology as well as to Him who is called the "Great Physician."

The conception I have endeavored to present to you may be called visionary and difficult of realization. I admit that it is a high ideal, and that it may not be attained by each and every one. It may, nevertheless, be the aim of all, and that it is not unattainable is proven by numerous instances. Perhaps the highest exemplification of what I desire to be aimed at was Sir Thomas Brown, the author of "Religio Medici." Sir Thomas was a country practitioner in the strictest sense of the term, and lived in the first three-quarters of the Seventeenth Century (1605–1682), during fifty years of which he practised in the town of Norwich, England, and by his literary productions, of which "Religio Medici" is the most important, exhibited literary attainments equal to the highest of his day. These in no way interfered with his practice, which was very extensive, and many persons came from a great distance to consult him. The Rev. Mr. Whitefoot, his intimate friend for thirty years, wrote of him, "He was parsimonious in nothing but his time, whereof he made as much improvement with as little loss as any man in it; when he had any to spare from his drudging practice, he was scarce patient of any diversion from his studies; so impatient of sloth and idleness that he would say he could not do nothing." Note that his practice was characterized as "drudging," yet he understood most of the European languages, the Latin and Greek critically. "He was so curious a botanist that beside the specifical distinctions he made nice and elaborate observations, equally useful as entertaining." In other respects he fulfilled our ideal of the general practitioner. He left a comfortable, but no great estate to his wife and children, acquired by his own industry. He showed also that even at that early day the medical education had the same liberalizing effect on religious thought that it has to-day, in witness of which, let me read the following extract from his writings: "Nor must a few differences more remarkable in the eyes of man than, perhaps, in the judgment of God, excommunicate from heaven one another. Take our opinions together and from the confusion thereof there will be no such thing as salvation: for first the Church of Rome condemneth us: we likewise them; the Sub-reformists and sectaries sentence the doctrine of our Church as damnable: the atomist or familist reprobates all these, and all these them again. Thus we go to heaven against each other's wills, conceits, and opinions, and with as much uncharity as ignorance do err, I fear, in points not only of our own, but of one another's salvation." These are but a few of the many attainments of this truly great man. For a further account of him I commend to you one of several excellent biographies which are extant. His life and writings should be familiar to every medical man.

Nor does the novelist fail to paint us good pictures of the general practitioner. To say nothing of the oft-quoted Ludgate in George Eliot's "Middlemarch," we have a picture by Sarah Grand in the "Heavenly Twins" of Dr. Galbraith, who, though referred to by the author as a specialist, was really a general practitioner of the type we admire; and the book will repay the medical reader from this standpoint. Elizabeth Stuart Phelps has given us in Dr. Zay an admirable type of the woman general practitioner, albeit she was a homeopath. She

was possessed of all the accomplishments and all of the noble qualities which go to make up our ideal, and her work was full of the nobility of purpose and the happy results which fall to it.

In all word pictures of the physician by lay authors we meet incongruities and errors which fall unpleasantly on the ear of the educated medical reader, but this must be so long as the author is not himself a medical man; and until the latter, at the same time a skilled novelist, furnishes the ideal one, we will be dissatisfied with the physician in the novel. Ludgate is, perhaps, the best, but scarcely better than Dr. MacClure of Drumtochty, as depicted by Ian MacLaren in his beautiful and touching story, "Around the Bonnie Brier Bush," and no discourse on the subject of the general practitioner is complete without a reference to it. Weelum MacLure accords well with our ideal of the general practitioner, having been "chest-doctor and doctor for every other organ as well, accoucheur and surgeon, oculist and aurist, dentist and chloroformist, chemist and druggist." I believe the story of this "scarred veteran in the service of his patients," this self-forgetful doctor, will do more to lift up tbe heart of the physician than the creation of any other novelist. This may be because, as Dr. Watson informs us, "the character was not a fiction, but based upon the knowledge of four country doctors, either one of whom might have sat for his hero." What a privilege to be a member of a profession in which such men abound; what an honor to be one of those from whom such a type is drawn. Well may we glow with pride at the universal recognition it has received, and while taking new courage from the contemplation of such a life, let us not fail also to allow our hearts to be softened by his example and bear with patience the many disappointments and petty annoyances that beset our daily path.

CLINICAL MEMORANDUM.

SUCCESSFUL REMOVAL OF A ONE HUNDRED AND TWENTY-FIVE POUND OVARIAN TUMOR. CÆSARIAN SECTION FOR DEFORMED SPINE AND PELVIS.[1]

By J. G. LYNDS, M.D.,
OF ANN ARBOR, MICH.;
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Case I.—Mrs. E. A. M., aged fifty-four years, married, seven children; age of oldest child, thirty years; of youngest fifteen years. One abortion twenty-five years ago, and another fourteen years ago. All labors were difficult. Was lacerated when first child was born. Began to menstruate at eleven years of age. Periods were regular, lasting seven days. The flow was copious and was attended by considerable pain. Periods stopped nine years ago but appeared again last spring, and continued with more or less regularity up to four months ago. About one year ago she noticed that the abdomen was enlarging, but for some time previous, the patient is uncertain how long, she had noticed a soft enlargement in the lower part of the abdomen. The abdomen steadily enlarged during the past year, and during the six weeks previous to operation, increased in size very much more rapidly than before. She had severe cutting pains in both sides and over the abdomen when making any exertion, such as in walking. The pains subsided in a few hours if she was quiet.

Examination of the patient showed an enormously enlarged abdomen, the full extent of which the photograph does not bring out, the lateral enlargement being very

Fig. 1.

Case of ovarian tumor weighing 125 pounds.

marked. The circumference at the umbilicus was 62 inches, the distance from the ensiform cartilage to the pubes 31 inches. Her weight was 265 pounds. The legs and body were edematous. The pressure on the stomach and thorax was so great that she found it well nigh impossible to retain nourishment of any kind, vomiting up any food almost as soon as taken. She suffered greatly from dyspnea, being unable to sleep except in a sitting or semireclining position. Her heart was weak and irregular and the blood-vessels had little tone. I offered her the chance of an operation, explaining to her that there was no chance whatever without one, and only a moderate one with it. She accepted the situation when she became convinced that she could not be cured by means of medicine, and said the reason she had not come sooner was because the doctor who was treating her had promised to cure without recourse to operation.

On December 10, 1897, after the usual preparation, assisted by Drs. Lahuis and Freeland, I opened the abdomen and found, as I expected, a multilocular cyst containing a great variety of fluids, that from some of the compartments being as thin and clear as spring water, while some was as thick as gelatine, with colors varying from very dark brown or black, to light amber. The contents of a few cysts resembled fecal matter, both in color and consistency, so much so that for a time I thought I had torn through the bowel. The cyst was adherent to the abdominal wall over its entire anterior portion as well as to the diaphragm, stomach, and omentum. I found it necessary to evacuate the contents before I could separate the adhesions, and after considerable difficulty succeeded

[1] Read before the Michigan State Medical Society, Detroit, May 5, 1898.

in liberating the lower portion sufficiently to find and ligate the pedicle. After cutting this I found it much easier to separate adhesions from the bowel, stomach, diaphragm, and upper part of the abdominal wall. When the cyst was removed, the abdominal wall presented a ragged, bleeding surface, shreds of peritoneum hanging from it. There was quite free bleeding from a few of these where the adhesions had been most firm. The shreds were trimmed off, the hemorrhage stopped by ligatures and cautery, the abdomen washed out and closed in the usual manner with drainage, and the patient put in a thoroughly warmed bed.

The large, flabby abdominal walls, and the excessive amount of watery discharge from the drainage-tubes made her a very difficult patient to care for, nevertheless she made an uninterrupted and complete recovery, steadily improving and gaining in strength and weight from the time she came out from under the anesthetic. Six weeks after the operation, when she had gained probably twenty or twenty-five pounds in weight, she weighed 154 pounds, just 111 pounds less than before the operation, so I think I am sufficiently conservative when I estimate the weight of the tumor at 125 pounds, the largest so far as I know that has ever been successfully removed in this State. At the end of this time the patient made the journey to her home, 250 miles away, with no inconvenience, and a few weeks ago she wrote me that she was well and happy now that she was rid of her octopus.

CASE II.—Mrs. D., married, no children, no abortions. When four years of age she began to have posterior curvature of the spine, which steadily increased until she arrived at her present condition. The trouble is thought to have been caused by the arms having been forcibly carried back over her head. She began to menstruate at the age of nineteen, has been irregular, the periods lasting three days, the flow slight in amount, and free from pain. The last period was July 31, 1897, before which time she claims she could not have become pregnant. She had intercourse the first week of August, and subsequently. Examination of the patient shows her height to be 4 feet 9 inches. There is a very marked posterior curvature of the spine, extending down to the lumbar vertebræ, the lowest ribs resting on the crests of the ilia. The abdomen and uterus were enlarged to the size of pregnancy at 7 or 7½ months, and overhung the pubes to the middle of the thighs. The fundus of the uterus rested in its lowest part on the thighs, and the cervix was high up against the diaphragm, forming as complete an anteversion as could possibly exist. The fetal heart, parts, and movements were easily recognized. To replace the uterus in the abdomen and make the uterine and pelvic axes correspond was impossible on account of the short distance and small space between the ensiform cartilage, the ribs, and the pelvis. The patient complained of great disturbance of the heart and of pressure on the thorax. She was greatly exhausted after exertion, was pale, and sickly looking, and ate very little. Her pulse-rate varied from 100 to 130, and was always weak; her urine contained albumin, but no casts. Pelvimetry showed the pelvis to have the following measurements: Between anterior superior spines, scant 9 inches; between crests at widest point, 9¾ inches; between trochanters, 10¾ inches; external conjugate, 6¼ inches. The true internal conjugate, as measured by the finger was calculated to be 3¼ inches. The cervix was high up, resting against the diaphragm beyond reach of the examining finger.

From the above description it will be seen that spontaneous delivery could not possibly occur. Production of

FIG. 2.

Pregnancy in a patient with marked curvature of the spine. Cæsarian section.

premature labor was scarcely to be considered on account of the unfavorable position of the cervix and uterine axis, which would render the use of forceps, version, or embryotomy very questionable, and in the opinion of those who saw the patient, more formidable and dangerous than Cæsarian section. I consequently elected the latter, and decided that the Porro-Mueller modification was the procedure best adapted to the case. One week before the calculated time for labor was selected as the most favorable time for both mother and child, thereby avoiding the complications the onset of labor would be likely to bring.

The patient was prepared for operation on April 29th, in the usual manner for abdominal section. The abdomen was opened, the uterus turned out, a rubber cord thrown around the cervix, and the abdomen closed off by sterilized gauze and towels. The elastic ligature was then tightened, the uterus incised, and the child extracted, the incision passing through part of the placenta, which was located on the anterior surface of the uterus. The child was delivered 4½ minutes after the operation

was begun and not more than 30 seconds after the elastic ligature was tightened, and given in care of Dr. Arneill, who found it somewhat difficult to resuscitate it, possibly on account of the anesthetic. It came out all right, however, and is now well and hearty. The wire serre-noeud was substituted for the elastic ligature, the uterus amputated through the cervix, the stump fixed in the abdominal wound, and the wound closed. The operation, in which I was very ably assisted by Dr. Lahuis, was completed in 10½ minutes. The patient had a slight reaction temperature, reaching 100.8° F. as the highest point. It had varied from normal to 99.8° F., however, before the operation. Forty-eight hours after the operation her temperature and pulse were the same as before. It is now seven days since the operation, and the patient is making a rapid recovery.

In my opinion, this case emphasizes the value as well as the necessity of seeing such patients early, of carefully weighing the value of each and every procedure open to the surgeon, and of electing the one best adapted to the patient, as well as the time most favorable for its performance. The probabilities are that early in pregnancy while abortion might have been given consideration there was not sufficient reason to believe that the extreme anteversion present during the last months would occur, and one would have been justified in the conclusion that a viable child could be delivered, even though it might have to be born prematurely on account of the small and deformed pelvis. The condition, existing however at 7½ months, at which time I first saw the patient, was such as to make the abdominal operation the most favorable procedure. Had the woman gone to full term and labor begun, the operation being then one of emergency, possibly under very unfavorable conditions and surroundings, the chances for good results to either mother or child would have been very much diminished.

Note.—Four months have now elapsed since the operations, and both patients are well and hearty.

MEDICAL PROGRESS.

Actinomycosis of the Face and Neck.—Fantino (*Rev. Gen. de Path. Interne.*, June 20, 1898) finds that actinomycosis of the face and neck is the form most frequently observed at Turin. Caries of the teeth invariably precedes the development of this parasite although no lesions can be found in the mucous membrane of the mouth. The bucco-pharyngeal origin of the disease is beyond doubt, but it is further proved by the preliminary infiltration which is invariably a submucous one. The masseter muscles are generally contracted. Pain is usually slight and fever not well marked. The mycotic grains are a pathognomonic symptom, but they are rarely found even after repeated examinations. The lesions are more characteristic before the skin is broken and pyogenic cocci introduced. Failure to make a diagnosis in an early stage of the disease may result in the death of the patient since when the mediastinum becomes involved treatment is of little avail. Actinomycosis of the abdomen is usually located in the cecum. There may be ascites but not invariably so, and in consequence the presence or absence of this sign is worth nothing in making a differential diagnosis between actinomycosis and tuberculosis. In the thorax actinomycosis produces no especial signs. It may indeed remain unobserved until the muscles and skin are involved. The woody induration which has been spoken of is not constant and may be lacking in acute cases. It is rather due to secondary infections with streptococci, bacteria coli, etc., than to the primary one. The pus may be thick or serous and therefore presents no characteristic aspect. The sole criterion therefore is the presence of the parasite, and this, as has been said, is found with difficulty. Healing may take place spontaneously but the real treatment is with potassium iodid. Surgical measures are not usually necessary and in many instances total extirpation would be impossible.

Simple Dermatitis of Childhood.—Takvorian (*Gaz. Hebd. de Med. et de Chir.*, September 4, 1898) believes that the cutaneous lesions of young infants which are variously described as intertrigo or erythema, vesicular, papular, etc., are different forms of a simple inflammation of the skin. He therefore proposes to sink these irrelevant distinctions and to class them all under the above heading as simple dermatitis of childhood. Such lesions are common enough in a light form, but grave cases are not lacking, and errors in diagnosis may lead to treatment which will aggravate the trouble.

Artificial Dilatation of the Os Uteri During Labor.—Demelin (*L'Obstetrique*, July 15, 1898) advocates the artificial dilatation of the os uteri during labor when there exists a necessity to hasten the birth of the child. This can be accomplished most readily and satisfactorily by the bimanual method. At any time after the uterine contractions have obliterated the cervix, dilatation needs only to be exerted upon the external os. During pregnancy, and in the absence of labor pains this is a much more difficult procedure but may still be accomplished with patience. Under these circumstances the internal os is the portion to which attention must be given. To dilate this requires a great deal of force except in patients who are moribund, or in those in whom the placenta is situated in the vicinity of the cervix. Other methods to produce rapid delivery give results less satisfactory for the child than does bimanual dilatation. The mother does not need to be considered for cervical lesions, if they are produced at all, are slight. A cardinal principle is never to attempt the extraction of a child by forceps or after version before dilatation either natural or artificial is complete. The physician ought always to assure himself of this fact before applying forceps or performing version, and if dilatation is not complete he should complete it in the manner indicated.

Digital Exploration of the Prostate.—Verhoogen (*La Policlinique*, June 1, 1898) says that digital examination of the prostate gland is neglected. Although only its posterior surface is palpable a careful examination will reveal much of importance. The finger should be well

smeared with vaselin, or better still, with some soapy non-irritating substance. This facilitates examination, protects the finger from fecal matter and is easily washed away; or, if preferred, a thin rubber finger-cot may be used. In the normal state the lower border of the gland is about 4 cm. (1.6 in.) above the anus, while its superior border is twice that distance from the anus. Hypertrophy of the gland is not easily made out by digital examination. It is more readily determined by means of a catheter. If a catheter is slowly introduced into the bladder and as soon as urine flows through it, it is slowly withdrawn, the distance from the point at which water begins to flow to the point at which the flow ceases is a measure of the length of the prostate. By attaching an irrigator to the catheter and slowly introducing the latter these results can be confirmed. Until the eye of the catheter reaches the prostate water from the irrigator will flow out at the meatus. While the eye is in the prostate no water can flow through the catheter, but as soon as it passes beyond the limit of the prostate water will flow into the bladder, whence it may be drawn off through the catheter. The average length of the prostate measured in this way is about 2 cm. (1 in.), the variations being from 1.75—3.5 cm. In old men with hypertrophy of the organ the measurements are often from 7 to 10 cm. (3 to 4 in.). Digital examination of the prostate is especially valuable in tuberculosis and chronic or acute blennorrhagia. In doubtful cases of tuberculosis one often finds by rectal touch nodules of the disease situated in the prostate gland. These at a later period break down and form abscesses, or terminate with cicatricial tissue and resulting in atrophy of the prostate. In the former case the finger introduced into the rectum will find a large, tender prostate in which there are softened areas or fistulæ. In the second case the gland is small, shriveled, and irregularly nodular. The seminal vesicles usually present similar lesions. In chronic prostatitis as in tuberculosis, the prostate is enlarged and sometimes nodular, but in the former the nodules are larger than in the latter, and the gland also feels edematous on pressure. Digital examination is no less important in acute blenorrhagia, for while the symptoms of inflammation in the urethra and bladder are well described by the patient the diagnosis of acute prostatitis is best made with the finger in the rectum. The prostate will be found tender while the sphincter is so firmly contracted that an anesthetic may be necessary. Sometimes an abscess forms which should be incised rectally if it does not break spontaneously in a short time. Otherwise a great quantity of pus may form before its presence is manifested externally. Malignant tumors of the prostate are hard and nodular and are easily made out rectally. In these cases bimanual examination should be employed to determine the size of the tumor and, what it is more important, its mobility.

The Role of the Spleen in Infection.—GOURMONT and DUFFAU (*Revue Gen. de Pathol. Int.*, June 20, 1898) regard the rôle of the spleen in the resistance of infection as still obscure. Different experimenters have reached apparently contradictory conclusions. Splenectomy acts differently according to the nature of the infection, for the reason that the spleen has not a uniform rôle in the presence of all microbial attacks. Against some it is a useful defense, against others it is powerless. The length of time that elapses between the splenectomy and the infection is also of importance in determining the result. Thus a rabbit whose spleen has recently been removed is more sensitive to pyogenic staphylococci than one who for a longer time has been deprived of this organ; but the more recently splenectomized animal can better resist streptococci than his fellow who has been longer without a spleen. The explanation of these diverse results is said to be as follows: The serum of a rabbit, eight days after the loss of its spleen, is found to be microbiophil for the pyogenic staphylococci, while on the other hand it is neutral or possibly bactericidal toward the streptococci of Marmorek. In brief the spleen secretes such substances as it is able for the defense of the body. They are useful or useless according to the character of the attacking germs.

THERAPEUTIC NOTES.

The Cure of Tetanus.—DU HAMEL (*Med. Moderne*, August 10, 1898) narrates a case of tetanus occurring in a boy aged fifteen and produced by a pistol-shot wound between the thumb and index-finger. Owing to the boy's cries the wound was not properly cleaned and some time later symptoms of tetanus set in. He was taken to the Pasteur Institute and in addition to hypodermic injections of antitetanic serum three cubic centimeters of a similar fluid was injected in each side of the brain near the fissure of Rolando. At the time the injections were made the patient was in a condition of strong opisthotonos. The contractions gradually diminished though they did not entirely disappear for some days. In three weeks he was out of the house. A more striking instance of the therapeutic value of this serum could scarcely be asked for. As a preventive 10 to 20 cubic centimeters should be injected at the time the wound is received. If symptoms of tetanus set in injections should at once be commenced and repeated at intervals until a cure is effected.

Treatment for Fracture of the Olecranon.—SALLE (*Gaz. Heb. de Med. et de Chir.*, June 5, 1898) speaks of the advantages of massage in the treatment of fractures of the olecranon. The repeated examinations which it necessitates familiarize the operators with the minute details of the fracture and with its symptoms. It lessens pain and muscular contraction and so makes diagnosis more accurate. As the treatment of a contusion and a fracture of the olecranon is one and the same the difference of diagnosis between these two is unimportant. Massage renders the prognosis more favorable and the complications which often follow continuous immobilization are avoided.

The duration of treatment by massage does not exceed that of other procedures; osseous suture for example. The results are most satisfactory.

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No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK.

Subscription Price, including postage in U. S. and Canada.

PER ANNUM IN ADVANCE	$4.00
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SATURDAY, OCTOBER 22, 1898.

THE SURGEON-GENERAL OF THE ARMY AND THE NATIONAL RED CROSS SOCIETY.

ANOTHER clash between the Surgeon-General of the Army and the Red-Cross Society seems to be imminent. The latter organization has asked the privilege of establishing Red Cross hospitals at various points in Porto Rico in connection with the United States garrisons. To this General Sternberg has replied that such an arrangement is entirely unnecessary, as the medical department of the army is amply equipped for all work of that nature.

It will be remembered that when the army was being organized for the invasion of Cuba and the expedition was about to start, the Red Cross made an application to send its nurses and hospital supplies as an adjunct to the army nurses and hospitals. To this request General Sternberg made a similar reply to the one he has given them in the present instance. The result was that the Surgeon-General had the humiliating experience of seeing the army surgeons in the field turning perforce to the Red-Cross hospital, to the Red-Cross supplies, and to the Red-Cross nurses to succor them in their dire distress as the only means of securing proper care for a large number of the sick and wounded soldiers. In what Department the responsibility for this inexcusable and unwarranted necessity rests has not yet been determined, but owing to some lack of foresight, or neglect, or incompetency, General Sternberg's answer to the Red-Cross proposition was not justified by the results. And yet, theoretically, General Sternberg's attitude at that time was correct, and theoretically the position he has again taken is correct. It is the duty of the medical department of the army to see to it that the army is equipped with a proper force of surgeons, assistant surgeons, and ambulance corps. It is the duty of the medical department to provide ample supplies of hospital and surgical necessaries for all emergencies. It is its duty to see that the health of the soldier is protected at every possible point. That is what the medical department is organized for and why it has its existence. The head of that department would, therefore, be wanting in self-respect if by act or word he admitted for one moment that the department was not competent to take care of the army.

It must be admitted that the department lines in the army are very sharply drawn, and in the execution of military orders there is a routine and a complicated machinery by which the orders pass the line from one department to another, which causes seemingly unaccountable delay and has brought the system into disrepute and stigmatized it as "red tape." A man of administrative force and ability, however, who appreciates the fact that the essence of a promulgated order lies in its execution, in times of emergency will break through the barriers of red tape and follow up his written order with a force and determination that will witness its execution before he relinquishes his pursuit. It was apparent on more occasions than one in the recent conflict that the man who metaphorically took the quartermaster or the commissary officer by the throat and insisted that his order should be executed whether any other order was or not, had his way. To have taken every quartermaster or commissary by the throat would have required a surgeon-general possessed of a 1000 hands. A small staff of able administrative officers would have met all emergencies, and obviated the sad shortcomings which robbed the medical department of the glory which it should have achieved. *Verbum sap.*

If the Red Cross is to be denied the opportunity of supplying gaps and shortcomings and shortness of supplies in nurses, hospital necessities, and hospitals themselves, it behooves the medical department to make surer of its ground than it did before Santiago.

VIRCHOW'S HUXLEY LECTURE.

THE second Huxley lecture delivered before the Charing Cross Medical School, London, under the chairmanship of Lord Lister, by the world-renowned savant Rudolph Virchow may be regarded as the most important retrospective contribution to medicine of the year. From the high vantage ground of a half-century's experience and the lofty pinnacle on which he has been placed by his many *bahnbrechende* contributions to science he has scanned with philosophic eyes the past and with wizard glasses searched the future in a most illuminating way.

Having passed in brief review the factors that brought about deliverance from the pernicious humoral pathology the lecturer went on to show that the greatest difficulty in the advance of biology has been the tendency of its disciples to set in the forefront of their inquiries the search after the unity of life. Hence arose the doctrine of vital energy and of spontaneous generation. Every one knows that it was Virchow's own investigations that emancipated science from this bondage. We envy his auditors the opportunity of hearing from his own lips a recitation of the processes and stages by which he was led to the conviction and proof that every living organism is not an individual but a social mechanism, and, like every organ and tissue, contains cells which are composed of organic chemical substances but which are not themselves alive. Application of this cellular theory permits us to lift veil after veil from the mysteries which have shrouded the doctrine of heredity even though it does not solve completely all the problems of that science. In reference to heredity the lecturer embraced the opportunity to state positively his belief in the hereditary transmission of acquired conditions.

With regard to the subject of parasitism he referred to the fact that the progress of scientific observation was retarded for centuries by the prevalence of the assumption that disease in general was regarded as a parasite. The recognition that the presence of a parasite meant harm to its host indicated the dawn of the true interpretation of this most important class of diseases. Study of the parasites led to the detection of parasitic protozoa by which the occurrence of the tropical fevers may be explained, and eventually their prevention successfully encompassed. It is necessary to distinguish between the cause and the essential nature of infectious disease, the latter of which is determined by the reaction of the tissues and organs to the microbes. Moreover that there is a relation between the smaller parasites and the diseases determined by them. Investigation of the mode of action of infection has already led to Listerism and to the introduction of serum-therapeutics, but apparently we are only on the threshold of the arena thus opened.

In closing Virchow referred to the problem of immunity and artificial immunization, the solution of which the whole world is awaiting with anxious impatience. Unfortunately the question has not yet emerged from the conflict of opinion and still less is the secret of immunity itself revealed. Even if everything points to the view that immunity is based on the condition of the cells and the juices of their parenchyma, we must still become accustomed to the thought that only the next century can bring perfect light and certainty on this point. Before then we must at least have succeeded in finding a way of strengthening the cells in their fight with bacteria by means of immunity. Those who have looked askance on the therapectic use of tissue-juices and the derivatives of secretions such as the semen may hearken to these words: "Though we are not yet in a position to pass final judgment, every one who is sufficiently unprejudiced must admit that they have in many cases been good. The source of all these substances is the cell-activity of living tissue, and that which is secreted thereby. Its therapeutic or pathologic action on individual organs or tissues can only exercise a regulatory influence on cell activity."

ECHOES AND NEWS.

Meeting of the Southern Surgical and Gynecological Society Postponed.—The Southern Surgical and Gynecological Association has postponed its meeting at Memphis, Tennessee, until December 13, 14, and 15, 1898, an account of the prevalence of yellow fever.

The Use of Tuberculin in France.—The general council of the Côte-d'Or has passed a resolution calling upon the

public authorities to pass a law rendering it compulsory for all animals intended for purposes of food or for milk supplies to be treated previously with tuberculin, and urging the observance of all sanitary measures directed to the stamping out of bovine tuberculosis.

The Physician Not Responsible for Notification of Birth.—A French legal tribunal has lately given judgment to the effect that the medical attendant in cases of childbirth is not obliged to notify the authorities of the birth, provided the father is present. A midwife was recently prosecuted for omitting to supply a birth-certificate, but she was acquitted on the ground that the father was present at the time.

The Death of Dr. Toscani.—Dr. Davide Toscani, professor of legal medicine in the University of Rome, died after a long illness at Rome, September 15, 1898. About twenty-five years ago he established the Municipal Office of Hygiene at Rome, and was its director for twenty years. The great improvement which has taken place in the sanitary condition of that city during this time is largely due to his labors.

The New York Obstetrical Society.—At the annual meeting of the New York Obstetrical Society, October 11, 1898, the following officers were elected for the ensuing year: President, Dr. W. R. Pryor; vice-presidents, Dr. Le Roy Broun and Dr. Edwin B. Cragin; recording secretary, Dr. Joseph Brettauer; assistant recording secretary, Dr. E. E. Tull; corresponding secretary, Dr. George W. Jarman; treasurer, Dr. J. Lee Morrill; pathologist, Dr. George C. Freeborn.

Dr. McGee Still in Service.—Assistant Surgeon Annita N. McGee, U. S. A., has been ordered to proceed from Washington, D. C., to Fort Monroe on official business pertaining to the medical department of the army, and on the completion of her duty to return to her proper station. Dr. McGee has had charge of the selection and appointment of female nurses employed by the army. She is the daughter of Professor Simon Newcomb, U. S. N., and the wife of Professor McGee of the Geological Survey, and has the distinction of being the only woman to hold a commission in the U. S. Army.

Health of the Troops at Santiago.—The number of cases of sickness from all causes has slightly increased during the past week, while the number of cases of fever remains about the same with the general tendency to decrease. The daily average of those on the sick-list has been over one thousand. Eleven deaths from all causes are reported. Of these deaths two each were due to typhoid, malarial remittent, and yellow fevers, one each to chronic dysentery, typhoid pneumonia, bilious fever, and delirium tremens, and one to malarial remittent fever accompanied by acute dysentery.

Obituary.—Dr. Nathan Smith Lincoln, one of the oldest and most prominent physicians of Washington, D. C., died at his residence October 14th, at the age of seventy. Dr. Lincoln was the grandson of Dr. Nathan Smith, who was the founder of the medical schools of Yale and Dartmouth. Dr. Lincoln was graduated from Dartmouth College in 1850, and from the Medical Department of the University of Maryland two years later, removing to Washington in 1854. During the Civil War he was surgeon-in-chief in the military hospital at Washington. Since then he has held various high offices in the District and National medical societies, and was one of the vice-presidents of the Ninth International Medical Congress.

A Case of Tetanus Cured by Antitoxin.—A young man of Passaic, N. J., recently fell from a hotel window and crashed through a skylight. Besides many minor injuries sustained, a large portion of the calf of one leg was torn completely away. Conservative work was done and the wound gave every promise of healing kindly when suddenly tetanus developed. Antitoxin serum was injected hypodermatically but without effect. As a final effort it was decided to resort to the heroic measure of trephining the skull and injecting the antitoxin directly into the brain tissue. This was accordingly done, with the result that almost immediately there was a relaxation of the muscles of the jaw. Since then improvement has been steady and constant.

The Handwriting of Medical Men.—A writer in a recent number of *Medicin Moderne*, after expressing his sympathy with the pharmacists whose difficult task it is to decipher illegible prescriptions, adds that the matter has attracted the attention of the Dean of the Medical Faculty of Paris. The execrable handwriting of many French physicians is thought to be a menace to the public, and the Dean is reported to have said that he would take the earliest opportunity of bringing the matter to the notice of the faculty. The pharmacists of America will doubtless sympathize with this movement. Typewritten "copy" is saving the dispositions and morals of medical editors, but relief for the pharmacist would seem to be a much more difficult matter.

Poisoned from Eating Shrimps.—Forty cases of acute poisoning from eating shrimps occurred at St. Anne's-on-Sea, near Blackpool, England, during the third week in September. The symptoms were those of an irritant poison—diarrhea, vomiting, and severe pain, especially in the bowels, being marked. Happily no fatal cases occurred, thanks to prompt medical assistance. The shrimps were potted and had been cleaned and cooked in the usual manner, and converted into paste by the aid of butter. There is no record of an analysis of the shrimp paste having been made. It would seem probable that, as the paste was fairly fresh its ill effects were due to an organic poison, ptomain, or decomposition product consequent upon the excessive heat.

Story Regarding Dr. Shippen of Philadelphia.—A writer in *Lippincott's Magazine* tells a new anecdote of Dr. Shippen of Revolutionary fame. He left his house early one morning and was hurrying down the street, when he noticed a singular and ferocious looking man, whose gaze was fastened upon him. With instinctive politeness Dr.

Shippen smiled, raised his hat and passed on. Then, a shot was heard. Turning quickly Dr. Shippen found that the stranger had just left his home with the insane intention of killing the first man he met. Dr. Shippen was the first man; but his absolute fearlessness and constitutional, as well as cultivated courtesy, had put the man off his guard, and the next passer-by had caught the bullet intended for him. That smile and bow had saved his life.

Smallpox in New York State. — Twenty-one cases of smallpox have appeared within the last two months at McLean, a village twelve miles from Ithaca. The contagion was carried there by a traveling show, one member of which was taken ill and confined in the isolated hospital at Ithaca. The cases have been of such a mild character as to excite little suspicion. The disease was diagnosed and treated as an ordinary skin eruption. It was only recently that its real nature was suspected, and an investigation ordered by the State Board of Health. An inspector was sent to the village who examined the cases conjointly with the members of the Ithaca Board of Health and pronounced them to be genuine smallpox. All suspected cases were at once quarantined, but as the entire village has been exposed to the contagion for a month many more cases are expected to develop.

An Ethical Specialist.—A veteran specialist of a neighboring city desires to make it clear that he stands ready to observe the golden rule—of doing to others as he would be done by—toward his fellow practitioners. He has sent his card to the doctors of his community with the following foot-note: "In strict accordance with professional ethics, patients referred to me for diagnosis, or suggestions regarding remedial measures, will not then, nor thereafter, receive treatment at my hands unless by professional request or consent." Why this gentleman, who has for years had the reputation of being jealous of the rights of others, should feel called upon to make this declaration of ethical pronouncement, we know not. One inference we may be pardoned for making is that some of his neighbors are "a little off" in their consultation ethics.

Alleged Antagonism of Malarial Fevers and Asiatic Plague.—A letter to the London *Lancet*, August 20th, from Bombay, points out that there is an increase of plague in several inland towns and a relative freedom from that disease at Calcutta. The writer says that he believes there will be found to exist an active antagonism on the part of malarial infection against the plague. "It is very suggestive," he says, "that inoculation for plague should exert a favorable influence on the subject of malarial disease. Many persons who have periodically suffered from febrile attacks of malarial character have remained free from them after inoculation. The antagonism of one toxin to another, or to the development of certain forms of bacilli or other micro-organisms, is little known, but it is probably on these lines that some of the greatest achievements in experimental science have yet to be made known."

The Extortions of Foreign Manufacturers.—In commenting recently upon this subject the *Bulletin of Pharmacy* says: "The following prices tell the story of the unmitigated extortion to which the general public, the drug trade, and the medical profession of America have been subjected for nearly two decades. The first column gives the prices per ounce charged the retail druggist in Canada; in the second appear the prices paid by the American druggist and dispenser:

Drug.	Canada.	U. S.
Phenacetin	0.25	1.00
Sulfonal	0.25	1.35
Trional	0.90	1.50

"This list of three drugs, be it remembered, represents only an insignificant and paltry fraction of the patented synthetic chemicals which have been poured in upon the American market chiefly by German manufacturers. A complete list would cover easily two or three of our pages, and in nearly every case the same glaring disparity prevails between the moderate prices ruling in Germany, France, England, and Canada, and the outrageously extortionate prices imposed upon the same articles in the United States. We earnestly urge our readers to do something more than merely curse the monopolists. Write the congressmen and senators. Write the commissioners, and lend a helping hand to the relief of the public from extortion and spoliation."

Little Malaria in the Porto-Rican Army.— Dr. Richard C. Cabot, who had charge of the hospital relief ship "Bay State" during her recent trip to Porto Rico to succor the Massachusetts troops and bring back the sick and convalescent, says in a letter to the *Boston Medical and Surgical Journal* that he examined the blood twice in 277 cases collected from all parts of the island, once for malaria and once for the Widal typhoid reaction. Continuing, he says: "To me the results of these examinations were very surprising. Just before leaving Boston I had been examining at the Massachusetts General Hospital the cases brought from Santiago by the "Olivette" and the "Bay State." A large proportion of these cases showed in their blood the organisms of estivo-autumnal malaria, and I had become so used to seeing the crescentic parasites in case after case that I listened with polite skepticism to the report of the doctor at Guanico, who said to me that he had seen no malaria in his regiment. When my examination for malaria began to turn out negative in case after case, I could hardly believe my eyes, and repeated the examinations as carefully as I knew how. The result was the same, and out of the whole 277 cases examined I found malarial parasites in only two cases—one the tertian, and one the estivo-autumnal organism. Since the crescentic forms of malarial parasites remain in the blood for weeks despite the administration of quinin, I do not think that these negative findings were due to the fact that almost all the patients (typhoids included) had been taking quinin in large doses. We were highly gratified to hear before leaving Ponce, that owing to my findings and those of Dr. T. Leary, the

wholesale use of quinin in all fevers at the Ponce United States Hospital was stopped. This alone would, I think, have made the "Bay State's" trip worth while."

CORRESPONDENCE.

THE ROLE OF THE PUBLIC CARRIAGE IN DISEASE CONTAGION.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—The other day I was an eye-witness to the transportation of a consumptive from one residence to another in an ordinary hack. It suggested to my mind what part this every-day vehicle plays in disease contagion. At most funerals the hack is brought into use. Relatives who have been exposed to the germs of such diseases as diphtheria, scarlet fever, or perhaps tuberculosis, occupy these carriages. The next day, or even on the same day of such a funeral, these very hacks are used by a different set of individuals.

I ask, then, what can prevent people exposed to infection from carrying pathogenic germs to and depositing them in the upholstered parts of the carriage? Often these very vehicles are brought into play as primitive ambulances whereby patients are carried from the station, from the gutter, or from the hotel to private residences or even hospitals. At the emergency the nature of the trouble is not always known. And here, again, many a patient suffering from the prodromes of some contagious disease is dumped into a hack and hurried off to his home or where not. The individual who occupies that hack next is liable to infection.

Yours truly,

A. HOLLINGWORTH, M.D.

PAWTUCKET, R. I., October 10, 1898.

WOUNDS OF THE HEART.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—Your editorial of October 8, 1898, on the subject of "Wounds of the Heart" interested me very much. In my opinion no domain in surgery, at present unmarked, promises so much in brilliancy of result to the skilful and daring operator.

Some years ago I made a series of experiments in heart wounds, using cats as the subjects. The results apparently showed that a fatal issue may result in one of two ways. Certain wounds, especially those near the apex, were immediately and instantly fatal, the animal dying as suddenly as if stricken by lightning. Though I never succeeded in determining the cause to an absolute demonstration, my inference was and is that the involvement of the intracardiac ganglia was the reason of the sudden fatal issue. These cases, of course, are at present without a vestige of hope, as the subjects are dead, practically, from the time of the reception of the injury. There is, however, a second class which promises brilliant results. I found that when the auricle or ventricle was penetrated, there being but a small wound in the pericardial sac, the blood was poured out until the sac was filled. The incessant action of the heart prevented the formation of an occluding blood-clot. The pericardial sac being filled with blood, the heart was simply swamped in blood and its actions hindered by it. Time and again I have seen a heart which had practically ceased to beat, resume beating with wonted force and rhythm when the pericardium was incised and the blood turned out. In this class of cases there are two direct causes of a fatal issue: (1) Interference with heart movements by blood in the pericardial sac, and (2) fatal hemorrhage.

The indication is plain. Resect the fifth or sixth rib, or both, incise the pericardium, turn out what clot may be present, and close the wound in the heart structure. Most patients will die before they come to the hand of a competent surgeon, but in a certain number, such as the one detailed in the editorial mentioned, there will be a large enough opening in the pericardium to allow the escape of part of the blood, thus obviating fatal interference with the action of the heart.

Thanking you for your indulgence, and hoping that some American surgeon may apply these principles to actual practice, I am

Yours very truly,

V. M. REICHARD, M.D.

FAIR PLAY, MD., October 15, 1898.

SOME GUIDES TO THE DIAGNOSIS AND DIFFERENTIATION OF APPENDICITIS.

To the Editor of the MEDICAL NEWS:

DEAR SIR:—Since it is a recognized fact that the diagnosis of appendicitis is often very obscure in the early stages the following sign which has so often served me well, may prove of value to other surgeons. Realizing how well Hilton's law in regard to the nerve-supply of joints (a nerve which supplies a joint supplies also the muscles controlling the joint and the skin covering it) applies to the abdomen, it has occurred to me to put it to practical use in localizing as far as possible the side and situation of an inflammatory process in the abdomen.

The books tell us to look for a contracted rectus muscle on the one side, but how difficult it often is to make out that one is contracted or slightly so and the other relaxed. The sign I would point out is this: Test the epigastric or rectus reflex on each side and it will be found that the right rectus being already contracted or partially so will not respond while the left will. The reason is that the inflamed appendix already has called upon this reflex to protect it.

Among several cases in which I have used this sign with great success, I will briefly recount a recent one: A girl, aged eleven years, was attacked with severe diarrhea after eating peanuts. On the second day she screamed with pain on and after passing urine, and her abdomen in the pelvic region was tender to the touch. On each side corresponding to about 1½ inches below McBurney's point she winced upon pressure but on neither was the pain more acute than on the other. The abdomen seemed perfectly pliable and pain was complained of in no other region. Temperature varied from 99° to 101° F. for

three days following the diarrhea, pulse from 80 to 100. A catarrhal condition of the bowels was present as was evinced by the many dejections of dirty-green and thin stools. On one occasion during the first 24 hours a slight vomit occurred. No satisfactory symptom of appendicitis could be found. I pointed out to my colleagues, Drs. Hart and Martin, the sign as described above. We immediately applied it to the case in hand and found it of the greatest value; the diagnosis was promptly made, and I operated and removed successfully a gangrenous appendix. The patient is now perfectly well.

I was called recently in consultation with Dr. C. F. Gardener to see a patient who had had several attacks presumably of appendicitis, and, being tired of their repetition, wished an operation. He was apparently just recovering from an attack, and his physician informed me that at the onset he had usually given immediately a large dose of salts which cut short the attack. On examining the patient I found a tender spot below the McBurney point, but nothing abnormal could be detected. I discovered, however, that I could pass my finger with the greatest ease up the inguinal canal, and at the internal ring which was easily felt the tender point was immediately encountered, and the patient said at once: "That is the place." This corresponded exactly with the spot he had indicated externally. On the left side a condition somewhat similar was detected but the parts were less relaxed. The explanation at once suggested itself that on several occasions he had suffered from a beginning hernia, but the peristaltic action caused by the salts had withdrawn the bowel from the inguinal pouch. No operation was advised.

GERALD BERTRAM WEBB, M.D.

COLORADO SPRINGS, COL., OCTOBER 14, 1898.

A QUACK IN TROUBLE.

To the Editor of the MEDICAL NEWS.

DEAR SIR: W. G. Brown, attorney for Mr. Edward S. Hedges, Secretary of the American Horse Exchange, has begun an action against E. H. Bemis of Glens Falls, N. Y., to recover $25,000 damages for the loss of his client's eyesight, through unskilful, unscientific, and grossly negligent treatment. Bemis is a layman, who has made himself rich by advertising that he can cure all diseases of the eye, from hordeolum to glaucoma. His victims have been many, and are drawn from all grades of society. For nearly a year Mr. Hedges had been gradually losing his sight, due to atrophy of the optic nerve. He was under the care of an eminent oculist in New York City, who, curiously enough, would not promise a complete restoration of sight. The wonderful Bemis, however, would promise anything, and to Mr. Hedges these alluring promises loomed up like a life-preserver to a drowning man. A few days after his arrival at the sanatorium a colored waiter from the "Sagamore" on Lake George came down to be treated for what was probably a gonorrheal ophthalmia. Bemis, not being a medical man, is probably ignorant of the virulence of the industrious gonococcus when turned loose in a suitable medium. Anyway, he took no antiseptic precautions, but used the same pipette and solutions in the eyes of all the patients, with the result that five days after the advent of the negro there were nine fresh cases of "conjunctivitis." Bemis was profuse with assurances that they had simply taken cold and would be all right in a few days; but when Mr. Hedges consulted a regular physician and learned that he had acquired a dangerous and contagious disease, he told his fellow sufferers, and there was a general stampede for New York. This prompt action undoubtedly prevented the total destruction of many eyes, but there followed weeks of anguish and anxiety, together with pecuniary loss by reason of incapacity for business, a loss which Mr. Hedges estimates in his case at $25,000.

Yours truly,

JOSEPH ALAN O'NEILL, M.D.

NEW YORK, October 10, 1898.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

HOSPITAL ABUSE—DAMAGES AGAINST A PHYSICIAN—FATAL CASE OF TETANUS TREATED WITH ANTITOXIN—SICK-SOLDIERS' FUND BENEFIT—NOTES ON CHARITIES AND CORRECTION COMMITTEE—AN ARREST FOR PRACTISING WITHOUT A LICENSE—PERSONAL NOTES—HEALTH-BOARD STATISTICS.

PHILADELPHIA, October 19, 1898.

THE *Philadelphia Medical Journal*, in an editorial, entitled "Another Phase of Hospital Abuse," describes the unfortunate experience of a physician who endeavored to have a patient suffering from purulent conjunctivitis admitted to a hospital. After being refused admission at several which receive State aid, the patient was finally taken care of by a denominational institution, which, because it is denominational, does not receive support from the State.

In regard to hospital abuse, the agitation which was started last spring seems to have been utterly devoid of results, probably because the question was not discussed on its broad issues but in a limited way. There are several causes for this abuse, among them being: First, a desire for large attendance at the clinics in order to secure liberal contributions from the State and individuals on the recorded number of patients treated. Second, a desire for large attendance in order to secure among the number an average of rare cases for presentation to medical societies or students. Third, a desire for the honor (?) of treating the largest number of patients. The fruits of this system are: (1) Necessarily limited attention paid to many worthy cases because of the time required to treat the enormous number of patients at the clinics. (2) Deprivation of many fees to physicians to whom these patients would ordinarily go. (3) The creation of a pauper feeling among the community. (4) Free consultations by unscrupulous physicians, who, nevertheless, charge the patient "for Professor Blank's opinion."

The remedy applicable to the first cause is appropriations based upon the number of patients treated in the wards of hospitals, and not upon the dispensary cases

where expenses are *nil*, most hospitals charging at least the cost of prescriptions. For the existence of the second cause there is no excuse. The *rare* case is unsuited for presentation to students, and to the medical men it will eventually be presented independent of the clinic. What excuse can be offered for the third cause? Human nature seems to be its chief factor. Why does the physician in charge permit himself to be deprived of just consultation fees? Possibly because his directors complain that "the clinic is falling off." Why does the assistant continue to treat these cases which should legitimately be his? Possibly because he prefers to gain some experience rather than wait hopelessly for the very people he is treating at the dispensary. So the endless chain goes on, and until physicians realize their ultimate loss in pursuing this policy it doubtless will continue to go on, and meetings for its suppression will continue to be a farce.

Damages to the extent of $3500 were awarded the plaintiff in an action brought by William H. Forse of Norristown against Dr. H. F. Scholl. The plaintiff had been left a cripple owing to the alleged unskilful treatment by the doctor, whose diagnosis and treatment of the case were afterward criticised by a hospital physician to whom the plaintiff went for relief.

A fatal case of tetanus occurred last week in which antitoxin proved of no avail, though administered early. The patient, a boy fifteen years old, had his finger stamped upon while playing football, and four days later developed symptoms of tetanus. The finger was amputated, and after the administration of antitoxin the boy appeared to improve for forty-eight hours, at the end of which time tetanic convulsions came on, causing death by exhaustion the tenth day following the injury.

The Medico-Chirurgical Hospital is to have a benefit performance next Tuesday afternoon at the Academy of Music in aid of the Sick-Soldier Fund. President McKinley and other prominent visitors to the Peace Jubilee are expected to be present.

Councils Committee on Charities and Correction have decided to increase the salary of its "out-door" physicians from $240 to $480 a year. An item of $28,000 for the support of feeble-minded children in the institute at Elwyn was amended to read "or other institutions," as the Board is having trouble with the institution, and wishes to be able to send the children elsewhere in case friction continues. Dr. J. William White sent in his resignation as a member of the surgical staff of Blockley, and Dr. David Bevan resigned his position as out-door physician for District B.

H. P. Lorman of Philadelphia was taken to Carlisle by a State detective and there lodged in jail, having been indicted by the Grand Jury for practising medicine in Cumberland County without a license.

Dr. Abram Jacobi of New York delivered an address before the College of Physicians, Monday, October 10th, taking for his subject "Some Preventatives." He spoke of the prevention of puerperal fever, gave some advice as to infant-feeding, and discussed at length the prevention of premature senility by careful rules in regard to eating, drinking, exercising, and sleeping, and in this connection decried the "leave-to-Nature" theory of curing disease.

The Board of Directors of City Trusts have made the following appointments at the Wills Eye Hospital: Dr. Albert C. Snell to be resident-surgeon for one year from November 1st; Dr. James Thorington to be assistant-surgeon under Dr. Risley; Dr. Walter L. Pyle to be assistant-surgeon under Dr. Behrens.

Dr. William Pratt Read, a graduate of Princeton and of the Medical Department of the University of Pennsylvania, died October 10th, aged fifty-one years. Dr. Read was Grand Medical Examiner of the Order of United Friends, a Mason, and one of the founders of the American Legion of Honor.

The total number of deaths occurring in Philadelphia, as reported at the Health Office, for the week ending October 15th was 331. The total number of new cases of contagious diseases for the week was 333, as follows: Diphtheria, 115 cases with 21 deaths; scarlet fever, 18 cases with 1 death; typhoid fever, 200 cases with 11 deaths.

OUR FOREIGN LETTER.

The Seventieth Annual Congress of German Naturalists and Physicians.

[Specially Reported for the MEDICAL NEWS.]

THE annual meeting of the German Naturalists and Physicians is always one of the important scientific and medical events of the year in Germany and this year's session, which opened at Düsseldorf on September 19th, proved no exception to the rule. A notable feature in connection with the congress was the exhibition of instruments, books, and objects of interest connected with science and medicine. The exhibition illustrative of the history of medicine was especially instructive, all the ages and countries being well represented. An important collection of instruments that had been used by the medicine men of various American Indian tribes, could not help but attract an American's attention and make him wonder if a sufficient amount of care is being taken to preserve a complete collection of such interesting objects in America, where they will have in a few years the special archeological and ethnological interest of belonging to an extinct people.

At 9 A.M., September 19th, the first general session took place in the Imperial Hall of the municipal "Tonhalle." More than 800 people were present, among whom, in the light of the recent unfavorable position taken by the representatives of the German medical men on Doctor's Day at Wiesbaden as regards medical studies for women, it is interesting to note that there were a large number of women. It is but another indication of the gradual submission to the inevitable in the matter of the higher education of women that is growing more and more noticeable throughout Germany, despite the persistent protests of the more conservative. Last year during the session of this same congress at Brunswick, when the question of excluding women from certain of the more exclusively medical sessions came up, Virchow lent all the great

weight of his authority and influence in favor of the fullest privileges for women at the congress. This year the German women interested in science and medicine were in attendance in full force.

PROFESSOR WALDEYER of Berlin in his opening address as President announced the establishment of a formal society of German Naturalists and Medical Men, under whose auspices future congresses are to be held. So far the organization of the yearly meetings has been in the hands of committees appointed annually. Especially of late years, a number of the regular attendants at the sessions have felt the lack of, and discussed in various journals the need of, closer union. This has now been effected.

PROFESSOR KLEIN of Göttingen spoke on "Polytechnic Schools and Universities." This was one of the non-medical addresses, but was interesting to medical men because Professor Klein demanded for polytechnic schools the facilities for giving instruction as practical as the German medical schools are giving at present. Just as the physician from practical contact with cases is able to take up at once the practice of his profession, so the trained mechanician should be able to enter upon practical work immediately after leaving school. As the medical men in their discussion of clinical instruction in medicine at Wiesbaden in April claimed that it is especially from the practical side that there is room for improvement in the present teaching of medicine, this expression of "the way that others see us," a typical example of the common feeling that other people are so much better off than we are ourselves, was very interesting. That professors of the natural sciences and mathematics should demand more practical work for students (as well as the teachers of medicine) is but a pregnant sign of the times in educational matters generally, for theory is losing its precedence to practice all along the line.

PROFESSOR TILLMANS reviewed "The Century in Surgery" in an address of general rather than special interest. Anesthesia, antisepsis and asepsis, and the Röntgen-rays were particularly dwelt upon. Professor Tillmans considers that the future development of surgery now depends on the cultivation of surgical pathology and intimate collaboration with the other branches of general medicine, in order that by earlier and more assured diagnosis new fields of operation may be opened up to the surgeon. Modern surgical technic he considers so perfect that the limits of its application to human ills have been by no means reached as yet. Animal experimentation he thinks has accomplished so much for mankind in the past, in surgery, in serum-therapy, in the study of the etiology of disease, and in so many other branches of medicine that he considers the prejudice against it as *inhuman*. He foresees that the undue limitation of animal experimentation would be a serious detriment to the medicine and the surgery of the future. As Professor Moritz Schmidt in opening the German Medical Congress some months ago took occasion to allude to the same subject it may be seen that the movement is gradually forcing itself upon the attention of German medical men and serious efforts are being made to educate public opinion in the matter and preclude the possibility of inhibitory legislation that would interfere with scientific investigation.

The close of Professor Tillmans' address took up the subject of military surgery and his sketch of its future would seem to indicate, as one of the German papers puts it, that "the cry of peace from the Neva had found no echo upon the banks of the Düssel." Despite the Czar's invitation to disarm, Professor Tillmans, a General Oberarzt in the German army, discussed confidently the surgery of the wars to come. As at the German Surgical Congress in April the dum-dum bullets, *i. e.*, the nickel-covered bullets, with unsheathed points, that the English have been using in India, were a subject for the severest condemnation on the score of inhumanity. It was suggested that the use of such missiles should be especially interdicted by international law.

Despite the efficiency of modern firearms Professor Tillmans was able to show by a comparison of the losses in battles at the beginning of the century with those of more recent years—the mortality at Leipzig, Borodino, and Waterloo, with that of Gravelotte, Sedan, and Plevna—that the losses have not become more severe. Distance fighting and the tendency to make greater use of the natural protection afforded by the lay of the land are factors that have led to decrease in actual mortality and to the infection of wounds that are not so serious as in the hand-to-hand combats that characterized the beginning of the century. These factors will play a still more important rôle in future wars and so make the position of the military surgeon ever more and more important.

"Water Dams in Mountain Regions," the third of the addresses at the first general session was not medical, but had a distinct interest for medical men because PROFESSOR INTZE of Aix proposed by the construction of huge reservoirs in mountain regions, first, to improve and enlarge the supply of drinking-water for cities and water for agricultural purposes; second, to retain the mountain population at home and prevent the present lamentable tendency to crowd into cities, by furnishing occupation to them in the employment in mills and factories of the water-power that might thus be harnessed; and third, to prevent the all too frequent suffering that is inflicted in various parts of the country by floods in the springtime, or after heavy rains in mountainous regions.

The General medical session was given up to papers on "The Physiology and Pathology of the Circulatory Apparatus."

PROFESSOR FREY of Zurich spoke of "Heart Activity and Its Physiological Relations." He supported the idea now becoming so popular that the heart-muscle acts automatically; that is, has within itself a potentiality to rhythmic contraction independent of nervous or circulatory connections. His comparison of ordinary striped, *i. e.*, skeletal muscle-fiber with heart-muscle was interesting in other regards also. Besides this capability of contraction apart from nervous connection, the heart-muscle fibers differ inasmuch as they virtually do not represent functional unities as do skeletal muscle-fibers. Heart-fibers

are so felted together and their branching network so connected that irritation of a single fiber is communicated to others and leads to the contraction of all. This does not happen with skeletal muscle-fibers, each of which is functionally independent.

Professor Frey sees in certain improvements in the technic of experimentation upon the heart great promises for the advancement of our knowledge of cardiac physiology and of the action of drugs upon the heart. Even the hearts of warm-blooded animals may now be kept beating for hours after removal from the body if proper precautions be taken. Recent experiments have shown that if but small quantities of blood or even serum be introduced at regular intervals into the coronary circulation and the heart kept constantly under a pressure of oxygen equal to about two atmospheres the hearts of warm-blooded animals may be kept alive even as long as twenty-four hours. The importance of this in our present insufficient knowledge of cardiac physiology and therapeutics is evident.

Professor Thoma of Magdeburg read a paper on "Affections of the Coats of the Blood-vessels as the Causes and Effects of Disturbances of the Circulation." He insisted especially upon the alterations in the walls of the capillaries, which are so early affected and which play so important a rôle in tissue metabolism. The capillaries must permit or influence the transmission of very different substances for nutritional purposes in the various tissues of the body, in the brain, for instance, in abdominal organs, in the bones, in the muscles. Slight alterations are sufficient to affect this delicate mechanism, hence the general nutrition suffers. This forms an important factor in all disturbances of the general metabolism.

"Processes in the Heart and Vascular System under Pathological Conditions" was the title of a paper by Professor Krehl of Jena, which, owing to the author's absence because of illness was read by Professor His of Jena. Professor Krehl considers that we do not as yet understand why under certain circumstances venesection does good. He has studied the effect of it on the various organs of animals. Its evident object would seem to be a reduction in blood-pressure, but this it accomplishes only for a while. There would seem to be alterative effects produced on general organic function by this passing reduction in blood-pressure that will yet form a groundwork for interesting studies. The other important element in cardiac pathology at present is the effect upon the heart of toxins, not alone those of bacterial origin, but those also due to defective organic metabolism.

In the Second General Session (combined medicine and general science) Professor Martins of Rostock spoke of "The Causes of and Predisposing Conditions for Disease." He considered that Virchow's address published in 1880 on "The Entity and Causes of Disease" is still and will remain one of the classics of medical literature despite the fact that it was published just before the present tidal wave of bacteriology had swept over the sea o modern medicine. The conclusions of Virchow's address remain practically as true to-day as twenty years ago, and though we have learned so much about the bacterial causes of disease, we are scarcely nearer to a satisfactory explanation of its real origin than we were before. What predisposition or tendency of the organism gives the opportunity for the vegetable parasite to gain a foothold we are no nearer knowing than before, yet this is *the* important element in the origin of disease. There was a time in the inception of modern pathological anatomy, when the discovery of the distinctive pathological lesion of the disease was thought to have brought medicine nearer to the *ens morbi*, to the essence of the disease. When it was found, for example, that hepatization of the lungs was characteristic of pneumonia it was considered that a distinct step had been made toward knowing the entity of inflammation of the lungs. Now we know the bacterial cause that sets up the hepatization, but we are no nearer knowing why one man is afflicted with it, another not, though both seem to have been exposed to similar conditions and in the mouths of both the pneumococcus may be demonstrable.

The cause of disease has always interested mankind, but words have displaced ideas only too often in the attempt to state it. Every practitioner knows that it is almost impossible to get clear, definite, satisfactory answers from most patients as to the preliminary symptoms, the course of the disease, and its effect on various functions, but all of them are ready to volunteer information as to its cause. One has taken cold, another has had rheumatism or has seen it in a friend, and has ascribed his symptoms to rheumatic trouble, or it is gout, etc. There is a widespread belief in the mysterious action of certain simple causes that directly attack the organism, the question of predisposition being left out of the question.

There is a feeling in this matter amounting almost to fetichism and which corresponds to that other almost universal feeling, that there are in Nature certain mysterious remedies that repair natural forces in the same simple direct way as the supposed pathogenic agents work harm. Nearly every physician has had the experience of asking educated people, members of the aristocracy even, why they gave recommendations to quacks, only to receive the naïve answer, that they thought in perfect good faith that the wonderful man had discovered secrets of Nature which had escaped the medical profession, and that these mysterious forces over which he alone had control are more powerful than disease.

Each step in modern medicine has brought us farther and farther from this simple naïve causal idea of the origin of disease and this simple specific therapeutics. If exposure to microbic infection was always followed by disease, then bacteriology would have given us an explanation of the origin of disease. Infection and disease are by no means correlative terms and the difficult question of susceptibility comes in as an important element to make us realize that we are still a long way from the explanation of specific pathogenesis. The study of this question of susceptibility and its causes is to be an important occupation for the pathologist of the Twentieth Century, and much more is to be hoped from a widening

of our knowledge of predisposing conditions to disease, than from the further discovery of specific bacterial causes. This advance in knowledge, however, will came from no one-sided bacteriological hygienist, but from those who have studied profoundly the conditions of disease as they are.

PROFESSOR VAN HOFF of Berlin spoke on "The Increasing Significance of Inorganic Chemistry." While for a number of years general attention has been directed to organic chemistry, of late a series of most important discoveries have recalled attention to inorganic chemistry. No less than six new elements have been found within a year or two, argon, helion, metargon, neon, krypton, xion; carborundum, calcium carbid, aluminium, chromium, and the rarer metals are being prepared commercially. The connection with physics, especially with the laws as to heat, are giving the theory of chemistry an impulse at the end of the century, such as it derived from the laws of atomic and molecular weights at the beginning of the century. In this new birth of the science from which so much was vainly hoped for medicine originally, there can scarcely fail to be great advantages for the sister science and especially for the cognate departments of physiological chemistry and pharmacology.

Overwork in the Schools.—Some of the sessions of certain sections were the scene of interesting discussions. The section for hygiene and the section for mathematical and scientific instruction each touched, though entirely independently and on different days, on the subject of overwork at school. The mathematicians and scientists demand that less time be given to the ancient languages, especially to Greek, and it was even suggested that Greek be dropped entirely in the preparatory schools. Practically all were agreed that too much work is demanded of pupils under the present system. Professor Pietzker of Nordhausen severely condemns the system of cramming for examinations. Professor Griesback of Mülhausen, in Alsace, condemns the examinations themselves. If a teacher does not know his pupils at the end of six or seven years, an hour of questioning them under the excitement of examinations will bring him no nearer such knowledge.

In the section for hygiene the question of school overwork came up in the discussion of Professor Kruse's (Bonn) paper on "Physical Degeneration and the Capability of Bearing Arms." Professor Bail of Prague claimed that the number of those exempted from military service because of physical defects is especially great among the one-year volunteers, that is, among those who because of a certain degree of education are excused from serving the full three years ordinarily required by law. The reason he considered to be overwork at school among this class. Professor Erb of Heidelberg had expressed himself in the same sense, especially as regards the development of neurasthenia in this class. General Arzt Stricker of Münster could not be sure that the Physical incapability of bearing arms was due especially in the educated classes to nervous diseases, but he had found hysteria and neurasthenia persistently on the increase among the men during their military service.

In the section on hygiene Professor Hankin of Agra, India, the government bacteriologist for the Central Department of India, was given a very enthusiastic reception. He spoke on "The Method of Dissemination of the Pest (Indian plague)." He considers it essentially a rat disease. In India years of careful observation have convinced him that the disease always originates among the rats, and that wherever successful means have been employed to drive out the rodents, the plague disappeared. Wherever the rats were most numerous the plague was worse. The surest prophylaxis against the plague would be in his opinion some sure method of getting rid of the rats.

This year the section for the history of medicine met independently for the first time and was very well attended by specialists. Körte, privat docent in archeology at Bonn, spoke on "Attic Gods of Healing and Their Places of Worship," with demonstrations from recent excavations by Dörpfeld. One very interesting bit of terra cotta found in the neighborhood of Veii was exhibited which was a sort of manikin and gave the positions of the organs of the human body. Its date is over 400 B. C.

In the section for history and also for veterinary medicine, the presentation of photographic copies of the well known papyrus of Kahun, which deals with veterinary medicine, attracted a great deal of attention. This is believed to be the oldest medical manuscript in existence.

SOCIETY PROCEEDINGS.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Abstract of the Proceedings of the Twenty-fourth Annual Meeting, Held at Nashville, Tenn., October 11, 12, 13, and 14, 1898.

FIRST DAY—MORNING SESSION.

THE Association met in the Hall of the House of Representatives at the State Capitol, and was called to order by the Chairman of the Committee of Arrangements, DR. DUNCAN EVE. Prayer was offered by REV. JAMES I. VANCE, D.D. Addresses of Welcome were delivered by HON. J. M. HEAD, on behalf of the city and State, and by DR. C. S. BRIGGS, on behalf of the profession of Nashville.

After the reading of the reports of the Secretary and Treasurer, which were accepted, the President's Address was delivered by DR. JOHN YOUNG BROWN of St. Louis, Mo. He selected for his subject

THE MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

He dealt with the history of the Association, saying that it was organized twenty-four years ago. Its rapid growth is due to the loyalty of its members and to the fact that from its inception it has been a distinctively working body. It has never been a mutual-admiration society. He made suggestions for its improvement, and said that inasmuch as the Association contemplates the publication of an an-

nual volume of Transactions, he would suggest that the dues be raised from $3 to $5.

Dr. Charles T. McClintock of Detroit, Mich., read the first paper, which was entitled

IMMUNITY.

Of late years a large part of the laboratory work in medicine has had to do with immunity. Many facts have been discovered; in a few instances these have been of immediate practical value in the treatment or prevention of disease. But, for the most part, these facts are uncorrelated, often contradictory, their meaning not clear. Hypotheses have been advanced, but as yet we have no theory that will even approximately explain the facts of immunity. The future of work in this line is full of promise. For the infectious diseases at least, immunity and cure are one and the same. A diphtheria patient will be cured only when its tissues are immunized against the attack of the diphtheria poison. There are several kinds and various degrees of immunity. We have a natural and an artificial or acquired immunity; apparently these are entirely different in kind, dependent on different functions of the body, effected by different substances. There is racial immunity. Again we have an immunity correlated with age. Variations in susceptibility are noted in different varieties of the same species and in different families.

Again, there is an individual immunity. Still again, one part of the body, even one portion of the same tissue, may be immune, while the rest is very susceptible. These facts are not to be explained by general resistance, good health, etc. The most vigorous man may acquire smallpox or influenza. The healthiest cow is likely to take pleuropneumonia.

Metschnikoff's theory (phagocytic) is the best explanation we have for natural immunity. Nuclein seems to be the germicidal agent elaborated by the white corpuscle. If natural immunity is due to one or several chemical agents, it follows that it is limited. Chemical action is always greater to life. After recovery from certain infectious diseases there is more or less of immunity to that disease. In some instances, as in scarlet fever or syphilis, this acquired immunity usually lasts for life. The immunity following recovery from disease is not proportional to the intensity of the disease process. The ability of an organism to resist the attack of disease germs or their products can be increased, trained, educated, if you will. Thus, in producing diphtheria antitoxin, we often get our horses to bear without apparent harm several thousand times the fatal dose of poison for an untreated horse. It may happen that diphtheria or measles may after generations or centuries disappear, owing to the fact that the race becomes immune.

To what extent an acquired immunity can be inherited is both an interesting and important question. This sort of immunity is usually lost, at least so far as our tests will show, before the animal reaches the adult stage. This inherited immunity is not the same as the immunity of the suckling. This is due to the fact that the immunizing bodies pass into the milk. The child receives from its mother not only food, but disease resisting power. There are active and passive forms of acquired immunity. The horse producing antitoxin is actively immune; his tissues are producing antitoxin. The child receiving a dose of antitoxin is passively immune. It has borrowed the strength of the horse.

There is an immunity to poisons. The wolf thrives on putrid flesh. Some animals are immune to snake poison. The insusceptibility of the morphin user may be something more than mere tolerance. The drug may be in part destroyed, and this anti-power may have to do with the craving for the drug.

There is no satisfactory explanation for the facts of acquired immunity. The various theories as to the nature of antitoxin and its mode of action were given, with the conclusion that antitoxin, in some way as yet unknown, stimulates some portion of the body, and this in turn destroys the poison. There is no antitoxin, but, in short, an immunizing body. Immunity and cure are the same thing.

Dr. George W. Johnson of Dunning, Ill., had had some experience with nucleinic acid in the treatment of pulmonary tuberculosis in cases of mixed infection, and had noticed a diminution in the number of pyogenic bacteria, and asked whether the phagocyte attacks the tubercle bacillus the same as it does pyogenic bacteria.

Dr. McClintock replied that he knew of no reliable investigations that have been made with reference to that point.

Dr. Ernest B. Sangree of Nashville said it is believed by many investigators that the phagocytes eat live tubercle bacilli, and that cases in which tubercle bacilli are included in the phagocytes have a better chance to get well than those which do not contain them.

Dr. Dudley S. Reynolds of Louisville was afraid that experimental observers have failed to note the necessary equilibrium between the circulating blood current and the lymph stream. Dr. Reynolds elaborated the theory of phagocytosis and showed how phagocytosis can never be successful if obstructions exist in the lymph-channels.

HYGIENE VERSUS DRUGS IN THE TREATMENT OF PULMONARY TUBERCULOSIS.

Dr. C. L. Minor of Asheville, N. C., read this paper. Under hygienic and dietetic treatment the author embraced all such non-medicinal measures as are directed toward an increase in the vitality of the organism, and of its resistance to disease, and remarked that climatotherapy is but a branch of hygienic treatment, although he did not embrace it in his remarks, which were confined to the proper application to individual cases of exercise, gymnastics, massage, hydrotherapy, rest, sleep, diet, amusements, clothing, and quarters. A partial and unsatisfactory use of such measures is more or less general, but unless directions be definite and specific, they will fail of their purpose. The difficulty of getting a patient to yield implicit obedience to the doctor was dwelt on, the indefiniteness of the orders given being in part to blame. If he is to recover, the patient and doctor must both work hard, no half-hearted seekers for pulmonary

health being likely to recover. The necessity of carefully and fully writing out exact orders for every detail of the patient's life, to be followed religiously by him, was urged, such a prescription being in phthisis of more value than the more common one for drugs. All such measures were for convenience classed under three heads: Those affecting the patient's surroundings, his life, and his exercise.

The very common abuse of exercise was deplored, and the invariable rule stated, "exercise short of the point of fatigue," and the other of "no exercise with a temperature over 100.4° F.," following which no mistake can be made.

A very gradual accustoming of the patient to longer and longer walks, beginning with only fifty or a hundred yards in many cases, and increasing until finally from two to ten miles can often be easily tolerated and a judicious use later on of walks on increasing incline, till steep hills are easily surmounted, was warmly recommended. Pulmonary gymnastics was most especially dwelt upon for use in non-active cases, and among several methods recommended for chest development and the increase of vital capacity, that form of Indian club swinging called the double figure-of-eight was chiefly recommended. Finally, any intention to advocate nihilism in medicine was denied. In carefully selected cases certain drugs have undoubted value as adjuvants, never as the chief resource. The short life of most drugs in phthiso-therapy was noted, and ascribed to the fact that no man can treat this disease long and not realize that nothing that in the least degree upsets the stomach can be anything but a curse to the patient. The only valuable results are those based on a vitalizing of the whole system, a stimulation of metabolism on a strengthening of the cells to oppose the invader. The thing to be attacked is not so much the lesion in the lung directly as the lowered vitality of the body, the diminished capacity of the lungs, and the deficiency of appetite, and drugs directed to a conquering of the bacillus *in situ*, are not to be compared with measures which enable the organism itself to acquire the strength to overcome disease. These things can be brought about best by an improvement in nutrition, which must after all come from the stomach, and an increase of the amount of oxygen taken into the lungs. Air and food: These are the drugs to which we can always trust; they will never deceive us, if a patient can be taught to get both in good amounts whenever food can be assimilated and enjoyed and air breathed deeply, there is hope of cure. Throw away two-thirds of our medicine bottles and use the other third less often, carry out a hygienic plan of life, stimulate the appetite by Nature's appetizers—air and exercise—which are alone permanent in their results, and which are as superior to gentian or quassia as sunlight is to darkness.

DR. S. C. BALDWIN of Salt Lake City, Utah, contributed a paper on

CONGENITAL SCOLIOSIS.

Scoliosis is (1) the most common of all deformities. (2) It is most often found in children under ten, rarely beginning after eighteen. (3) It is found more often in girls in the ratio of five to one. (4) The etiology is in a large number of cases very uncertain. Congenital scoliosis is very rare. Tubley of London, in the latest English work on deformities, says that he has been able to verify only four cases.

The case reported by the essayist was first diagnosed as scoliosis when the child was twenty-one months old, but the father had noticed the "lump" ever since the child was first washed. The interesting features of the case were that the curvature was in the lower cervical and upper dorsal region. There was some pressure on the cord, as shown by the more or less deficient development of the right side. The convexity of the curve in this case was to the left. There was partial paralysis of the forefinger of the right hand. There was sweating and flushing of the left side but none on the right.

The cause of the scoliosis in this case was thought to be the lack of amniotic fluid while in utero, probably allowing the muscular walls of the uterus to press on the fetus and hold it in a faulty position, and in this way cause a wedge-shaped development of the bodies of the vertebræ. This theory has been advanced by Weissenberg, Hirsh, and Schauz in the last year. In this case the mother was very small, and passed at the time of confinement so little water that she did not know there was any, and felt no motion comparatively during pregnancy.

DR. SAMUEL E. MILLIKEN of Dallas, Texas, had seen one case of scoliosis in a child under one year of age, but was not prepared to say whether it was congenital or not.

AFTERNOON SESSION.

DR. WILLIAM L. BAUM of Chicago read a paper on

THE THERAPEUTIC VALUE OF MARMOREK'S SERUM.

He dealt with the literature of the subject in an exhaustive manner. Twenty-two cases have come under his observation in which the serum was used. Of these, 19 were cases of erysipelas; 1 of erysipelas plus tubercular nuchal glands; one of facial erysipelas during child-bed without septicemia, and 1 of erysipelas with puerperal septicemia and double labial abscess. The last was the only fatal case. The serum used was supplied by Parke, Davis & Co.

The deductions he draws from an analysis of the literature and his own experience are: (1) In pure streptococcic infections the serum undoubtedly exercises a favorable influence on the course of the disease. (2) In the mixed infections the influence of the serum is noticeably demonstrable, but it merits further trial as an adjunct to other treatment. (3) Considering the grave character of the complications of a non-streptococcic nature reported, ordinary rules of therapeutics demand that in such cases, as with the diphtheria antitoxin, all indicated therapeutic procedures must be employed as well as the serum. (4) In view of the fact that erysipelas streptococci and phagocytes have been found to exist side by side in the lymph channels, it is fair to assume that the influence of the serum is directly exerted bacteriologically on the streptococci and not entirely through stimulation of phagocytic action. (5) The initial dose in all cases should be 20

c.c., to be followed by 10 or 15 c.c., according to the indications, every twenty-four hours.

Dr. Charles L. Minor said his experience had been practically confined to secondary infections in tuberculosis. He had used the serum of Parke, Davis & Co. with considerable satisfaction in preference to Marmorek's.

Dr. Samuel E. Milliken had used antistreptococcic serum in two cases, both of which terminated fatally. One was a case of abscess of the liver, the other a suppurative appendicitis.

Dr. William K. Jaques of Chicago called attention to infections in the pulmonary tract that he has found to be purely streptococcic, and in such cases he has advised injections of antistreptococcic serum with good results.

Dr. Baum, in closing, emphasized the importance of diagnosing the kind of infection present.

Dr. Albert Bernheim of Paducah, Kentucky, presented a paper and reported three cases of syphilis in which he administered blue ointment by the mouth with satisfactory results. He urged a thorough trial of this method, believing it will please the patient as well as the physician. The method of administering blue ointment by inunction is disliked by the patient on account of its nastiness and inconvenience, hence if another method of using the ointment can be substituted with the same good and quick results, why not adopt it?

Dr. James T. Whittaker of Cincinnati delivered the address on medicine. He selected for his subject

DIABETES MELLITUS.

Dr. Andrew Timberman followed with a paper, entitled

MASTOIDITIS; WHEN TO OPERATE AND HOW.

The cause and symptoms of this affection were described. To know when to operate one must be able to exclude the diseases which are often accompanied by inflammatory conditions over the mastoid without actual involvement of the bone, and which quickly recede when the primary disease is properly combatted. Every physician in his experience sees cases of simple furunculosis, and diffuse external otitis presenting as marked symptoms as painful and swollen mastoids. The tissues are boggy and the edematous condition is determined by palpation, pain, and pressure. Such diseases, as well as syphilis, must always be excluded as a *sine qua non* before operating.

He divided cases of mastoiditis into two classes, the first comprising those complicating acute aural disease; the second class, those complicating chronic aural affections. This division ignores primary mastoiditis, which is very infrequent.

Conclusions.—Operative measures should be instituted: (1) to preserve the function of hearing as well as to prevent a fatal issue; (2) earlier in mastoiditis due to scarlet fever, diphtheria, and the worst cases of influenza than when due to cold, measles, typhoid fever, etc.; (3) in the acute cases of mild infection, when subsidence does not occur within at most eight days (Schwartze). A shorter period is safer in a virulent infection. (4) Recurrent mastoiditis due to any cause. (5) In mastoiditis complicating a chronic suppurative otitis. (6) In acute cases when there is a drooping of the lining membrane of the superior posterior wall of the external auditory canal, carrying with it the membrana Shrapnelli; in chronic cases when at the same place a crater-like opening leads to the recessus epitympanicus and auditus ad antrum, even though in neither case symptoms immediately menacing life be present.

The author favors the typical or original Schwartze method of opening the mastoid antrum. Its success in given conditions justifies its application; its failure in given conditions has resulted in a more perfect procedure styled the Schwartze-Stacke or radical operation.

Dr. J. Homer Coulter of Chicago maintained that the general practitioner should not treat cases of mastoiditis in which the symptoms are well defined, and no one who has not had considerable surgical experience should attempt the Schwartze operation.

Dr. J. A. Stucky of Lexington said that in many cases of necrosis of the malleus he has made a free incision along the posterior-superior wall of the canal, curetted the diseased bone away, tamponed the canal lightly with iodoform gauze, and patients have done well without undergoing the radical operation.

Dr. Dudley S. Reynolds laid stress on the importance of instituting constitutional medication in the stage of invasion in cases of mastoiditis, saying that an ounce of prevention at this time is most preciously bestowed.

Dr. L. B. Graddy of Nashville called attention to a point not mentioned in the paper—the differential diagnosis between mastoiditis and mastoid periostitis. If cases are carefully observed there is as much difference between the two conditions as there is between a periostitis of the tibia and an epiphysitis. This differentiation is of paramount importance in the treatment, whether it be medical or surgical.

PROPHYLAXIS IN NOSE AND THROAT DISEASES.

Dr. J. Homer Coulter of Chicago read a paper on this subject. He said that there are many preventable pathological conditions in the nose and throat, and that many of the ordinary diseases of this portion of the anatomy have evoluted into more serious and distinctly different affections will be admitted without question. He omitted any reference to such conditions as syphilis, tuberculosis, diphtheria, influenza, or the exanthemata, inasmuch as the possible prophylaxis in each affection is a matter of general knowledge. He also omitted reference to any technical details which are at best mooted points with authorities.

Surgery does not cure all conditions, nor does it even prove always a prophylactic blessing. So also do local applications and constitutional treatment prove unavailing if universally depended upon. This is due in a measure to the lack of carefully exacting and eliminative diagnosis. With the development of our knowledge of the physiology of the nose and throat have come also new ideas of the connection between many diseases of those

organs and of their relative etiological importance. The impairment to ventilation and drainage is a most important factor, and one usually amenable to surgical treatment. "Taking cold" is not only a most frequent condition, but one the most susceptible to prophylactic measures. Clothing of the entire body is a factor of paramount importance in prophylaxis. Too much clothing about the head and neck is just as disastrous as insufficient protection. Adenoids, polypi, spurs, exostoses, deviations, deflections, and sensitive areas are each amenable to surgical treatment and demand such interference as soon as recognized. On the other hand too much surgery is quite as disastrous as too much conservatism. The tonsils are the cause of other and reflex pathological conditions as frequently as are adenoids. Mouth-breathing should be recognized as a most significant danger signal.

Conclusions.—Anything which produces an alteration in the normal physiological metabolism of the mucous membrane of the nose and throat; any alteration in the nutrition of the parts, any abnormal variation in functional activity; any considerable change in the histological anatomy are each and all remedial surgically or otherwise and are therefore amenable to prophylactic efforts.

DR. A. J. STUCKY of Lexington followed with a paper, entitled

PERITONSILLITIS OR QUINSY; CAUSE AND TREATMENT.

Of ten authors consulted seven after citing hereditary predisposition, exposure, etc., mention rheumatism and gout as the most prolific causes of this malady. Close observation and careful testing in selected cases convinces him that the rheumatic, or more probably the uric-acid diathesis, has more to do with the causation of this disease than any other factor.

Coming to the treatment he believes if the majority of cases of quinsy are seen within forty-eight hours after the first onset of the disease, they can be aborted to such an extent that suppuration will not take place. In cases that progress to suppuration, he strongly advocates early and free puncture, just as soon as there is marked distention, in order to relieve pain and stop the destructive suppurative process. For this purpose he uses a modification of an ear spoon, first described by Spier, and not a knife.

(To be continued.)

REVIEWS.

TRANSACTIONS OF THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION. Vol. X. Published by the Association, 1898.

THIS volume, a record of the meeting held in St. Louis in November, 1897, contains the usual number of interesting papers. The improvement of surgical technics and a discussion of extra-uterine pregnancy are salient features. Judging from this report the meeting must have been an unusually interesting one.

THERAPEUTIC HINTS.

For the Coughing Spells of Phthisis.—

℞	Bromoformi	gtt. xxx
	Ext. opii	gr. ii
	Spiritus	ʒ iiss
	Syr. ipecacuanhæ	℥ i
	Aq. laurocerasi	ʒ v
	Syr. simplicis	℥ v.

M. Sig. Three or four tablespoonfuls in twenty-four hours.

For Tapeworm.—After purgation by means of castor oil or sulphate of magnesia, administer the following mixture:

℞	Spts. chloroformi	ʒ ii
	Ol. terebinthinæ, Oleoresinæ aspidii aa.	ʒ i
	Glycerini	℥ ss.

M. Sig. Two teaspoonfuls every hour for four or six hours.

Symptomatic Treatment of Arteriosclerosis.—

1. For vertigo:

℞	Potassii iodi	gr. lxxx
	Potassii bromidi	ʒ iiss
	Sodii arsenitis	gr. 1⅔
	Aq. dest.	℥ x.

M. Sig. Two tablespoonfuls a day.

2. Diuretic for nocturnal dyspnea:

℞	Ext. grindeliæ fl.	℥ i
	Tinct. convallariæ	ʒ iiss
	Tinct. scillæ	*m.* lxxx.

M. Sig. Fifteen drops three times a day.

3. For palpitation:

℞	Tinct. digitalis, Tinct scillæ, Tinct. aconiti aa	ʒ ii.

M. Sig. Ten drops three or four times daily for eight or ten days.

4. For cardiac weakness due to errors in diet, etc.:

℞	Sparteini sulphat.	gr. viii
	Sodii iodi	gr. lxxx
	Aq. dest.	℥ iii.

M. Sig. One teaspoonful twice a day.

Treatment of Scarlatinal Nephritis.—HURWITZ reports a case in a child of seven, in which, after all other treatment had proved ineffectual, a rapid and complete cure was produced by bleeding to the amount of about six ounces. The edema disappeared on the following day.

Formula for a Dental Soap.—

℞	Thymol	Parts 5
	Extr. krameriæ	" 20
	Glycerini	" 120
	Magnesiæ	" 10
	Sodii borat.	" 80
	Ol. menthæ pip.	" 20
	Saponis med.	" 600

Dissolve the thymol and krameria in the glycerin (hot), then add the other constituents, stirring constantly.

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXXIII. NEW YORK, SATURDAY, OCTOBER 29, 1898. No. 18.

ORIGINAL ARTICLES.

CARBONIC-ACID GAS; ITS PHYSIOLOGICAL ACTION AND THERAPEUTIC EFFECT, AS SEEN IN EMPHYSEMA OF THE LUNGS, ANEMIA, WHOOPING-COUGH, DYSENTERY, AND IMPOTENCE.

BY A. ROSE, M.D.,
OF NEW YORK.

1. *The Physiology and Chemistry of Respiration.*—Carbonic acid is a constant constituent of the animal organism. The minor portion of the carbonic acid is obtained from the atmosphere and nutriments, the major part from the tissues and blood, forming one of the most important end-products of oxidation and tissue metamorphosis. It develops the effects of a weak acid, and like alcohol, those of an excitant and paralyzing agent. It enters the blood through the capillary circulation from the tissues in which it is formed. The gases occurring in the blood under physiologic circumstances are oxygen, carbonic acid, and nitrogen. The latter is present only in minute quantities and seems to play no important rôle in the vital processes, its quantity in different parts of the circulation being approximately the same. The amounts of oxygen and carbonic acid in the blood derived from various parts of the circulation differ in accordance with the rapidity of the blood current, different temperature, rest and labor, etc. Oxygen is contained in the arterial blood of man, according to Setschenow, to the amount of 21.6 per cent. by volume. Ludwig and Szeltcow found 6.8 per cent. of oxygen by volume in the venous blood of non-active muscles, and still smaller quantities in that of those in action. Oxygen is entirely absent, or present only in traces, in the blood of the asphyxiated. Zuntz states that the venous blood of the right heart contains on an average 7.15 per cent. less of oxygen than the arterial blood.

The quantity of carbonic acid contained in the arterial blood is usually 40 per cent. by volume and varies between 30 and 40 per cent.; it always corresponds exactly or very nearly so to the amount contained in the air of the alveoli. Every change in the composition of the alveolar air must be followed by a corresponding change in the tension and the absolute quantity of the carbonic acid in the arterial blood. Again, the carbonic-acid tension of the arterial blood affects primarily the diffusion between the blood and the tissues; hence, any variation in the proportion of carbonic acid in the alveolar air, continuing for some time, will cause a corresponding change in the proportion of the carbonic acid of the blood and tissues. The proportion of carbonic acid contained in the venous blood varies still more. According to Zuntz's calculation, the venous blood of the right heart contains 8.2 per cent. of carbonic acid more than the arterial blood. The average quantity is about 40 volume per cent. In the blood of the asphyxiated, Holmgren found even 69.21 volume per cent. of carbonic acid.

Almost all the oxygen in the blood is loosely held by the oxyhemoglobin, and only a small portion, 0.26 per cent., is absorbed by the plasma or serum. The circulating blood does not appear to carry oxygen entirely up to the point of saturation. Of the carbonic acid found in the blood the smaller portion, according to the examinations of Alex. Schmidt, Zuntz, and L. Frederiks, about one-third, is contained in the blood-corpuscles, but by far the larger quantity is carried by the plasma and serum. The carbonic acid in the blood-corpuscles forms a loose chemical union, firstly with the alkalies which there enter into combination with phosphoric acid, oxyhemoglobin or hemoglobin and globulin, and secondly with hemoglobin itself. In the presence of a preponderance or of a greater partial pressure of carbonic acid, the relations of the alkali compounds to carbonic acid undergo changes. Hemoglobin possesses the ability to absorb the two gases, oxygen and carbonic acid, independently of each other and simultaneously. The major amount of carbonic acid in the blood is found in the plasma or serum; it is more abundant in the serum than in the blood itself. One part is simply absorbed, the larger part is in loose, and the smallest part in firmer chemical union; the quantity which is simply absorbed could not be exactly determined. Setschenow estimates that in the serum of the dog it forms about one-tenth of the entire carbonic acid contained in the blood.

The quantity of carbonic acid in firm chemical combination must be determined by the amount of alkali-carbonates. It is, however, not exactly known, inasmuch as the alkalies of the blood are not only associated with carbonic acid, but also with other components, especially with the albumins. The amount of the carbonic acid in the blood corre-

sponds with the amount of alkali. Such, for instance, is the case when poisoning with mineral acid takes place. Thus Walter found only 2 to 3 volume per cent. of carbonic acid in the blood of rabbits, into the stomach of which he had introduced muriatic acid. The oxygen of the blood exists in dissociable combination with the hemoglobin, and this combination, the oxyhemoglobinic, depends on a certain partial pressure of the oxygen, varying with varying temperature. The same is the case with carbonic acid in blood, that contained in the corpuscles as well as that in the plasma; it exists there in combinations which depend to a high degree on partial pressure.

Quite a number of elements act together with carbonic acid, making it apparently impossible to decide the quantitative part of each single factor in the entire effect.

It is of great importance to know the amount of tension of oxygen and carbonic acid in the blood in order to decide the question of the exchange of gases between the blood and the alveolar air on the one hand, and the blood and the tissues on the other; especially to decide in how far this exchange of gases takes place under the laws of diffusion and in how far, also, other forces may be active. The change of gases in the tissue, the so-called internal breathing, takes place in the following manner: oxygen leaves the capillaries to enter into the tissues and simultaneously the main mass of the carbonic acid of the blood which originates from the tissues, leaves the latter and enters into the capillaries. The change of blood in the lungs, the so-called external breathing, is the taking up of oxygen by the blood from the air in the lungs, and giving up of carbonic acid into the latter. These processes of the double gas exchange are not yet sufficiently explained. The question which is yet to be solved is: does the exchange of these gases take place in consequence of the difference between their tensions in the blood and in the air in the lungs, by the laws of diffusion, or are there other factors active?

At present we cannot produce sufficient reasons for abandoning the view generally adopted, that the entrance of oxygen into the lungs takes place simply by means of diffusion; and further, that the amount of oxygen in the blood—within certain limits—does not especially depend on the amount of oxygen in the atmospheric air. Indeed, it is known that the increase of the oxygen pressure, even to the strength of one atmosphere, has no essential influence on the amount of oxygen taken into the lungs and the amount of carbonic acid which is exhaled. Animals placed in pure oxygen under a pressure of three atmospheres suffer convulsions and perish quickly. This oxygen intoxication is characterized by extraordinary reduction of consumption of oxygen. All organisms, animal as well as vegetable, succumb alike. Oxygen exerts a deleterious effect in the different organisms when they are exposed to it for a greater length of time, even at a tension far below the one which kills quickly.

When we inhale pure oxygen its consumption and the formation of carbonic acid become diminished. The deleterious effect of excess of oxygen and over-accumulation of carbonic acid when working together cause an animal to perish even when neither of the two gases by itself is present to a dangerous degree. Although carbonic acid is excretory matter, and life can only be continued when this gas is eliminated from the system regularly by rhythmically returning respiration, it would be erroneous to deny it all further rôle in the economy of the system. The carbonic acid in our organism with its normal quantitative changes seems to be necessary to excite important vital functions, especially respiration and circulation. The symptoms of intoxication when excessive quantities of the gas have been inhaled, may be explained, to some extent, as exaggerations of normal physiologic processes.

Concerning the elimination of carbonic gas in the lungs we are still without reasons for abandoning the generally adopted view according to which the carbonic-acid gas coming from the blood enters the lungs simply by the law of diffusion. There is a considerable difference between the pressure of the oxygen in the blood and the oxygen in the tissues, and owing to this difference of pressure the tissues are supplied with the necessary amount of oxygen. Quite the opposite is the case with carbonic acid; its tension is higher in the tissues than in the blood, and all the investigations thus far made have produced no evidence against the assumption that carbonic acid from the tissues enters the blood simply by the laws of diffusion.

Considering even superficially the quantities of oxygen in the blood it appears at once plain enough that the main amount cannot have been absorbed physically, for the serum of the blood, as a solution of indifferent substances, absorbs less oxygen than pure water—it can absorb 0.3 volume per cent. of oxygen from the atmospheric air at the ordinary temperature of the body. In reality, however, arterial blood holds not less than seventy times this quantity of oxygen. The same applies to carbonic acid, the largest part of which, as has been shown, is held in chemical union in the blood and cannot to any great extent be absorbed physically. The partial pressure of the carbonic acid in the blood is much too small to allow the gas to be simply absorbed.

The comparison of the gases of the arteries with those of the veins is of great importance because it furnishes directly the evidence that real processes of combination do not occur to a considerable extent in the lungs, but almost the whole amount of oxygen which has entered the lungs can be separated from the blood of the arteries by means of the exhaust-pump.

The mass of inspired air has to be divided in regard to its action on the renewing of the air in the alveoli into two parts. A certain amount remains in the upper air passages and is removed again by expiration; the rest enters into the alveoli to mix with the air which is there already; on account of the smallness of each single infundibulum it is likely that the diffuse mixture of old and fresh air takes place momentaneously while the bronchial tubes are too long to allow the exchange of their gases with those of the alveoli by diffusion, which certainly could hardly be accomplished in the time between two respirations. The next process in respiration is that air from the alveoli takes the place of the expired contents of the bronchi, and only when the extent of the expiration exceeds in volume that of the air-passage, alveolar air will pass out directly. The movements of respiration, therefore, can have but little success when the volume of each expiration does not exceed that of the air-passages; that is, does not more than exhaust the contents of the air-passage. Thus, a very superficial breathing will only insufficiently ventilate the alveoli, even when the frequency of respiration is increased. The expired air is the richer in carbonic acid and the poorer in oxygen; the larger part of it comes from the alveoli, that is, the more profound the expiration.

2. *Inflation of the Large Intestine with Carbonic-Acid Gas for Diagnostic Purposes.*—H. v. Ziemssen was the first who, in the year 1883, described and published experiments to establish the value for diagnostic purposes of artificial inflation of the large intestine. His method is to develop the gas within the intestine by introducing through a rectal tube, first bicarbonate of soda, then water, and finally tartaric acid. Rosenbach has published the results of a large number of experiments made on the living subject and also on the cadaver by inflating the large intestine with liquefied carbonic acid. The selection of liquefied carbonic acid in place of the effervescent mixture offers a number of advantages: (1) it allows an exact dosage; (2) the induction of the gas is absolutely uniform and constant; (3) the inflation may be interrupted at any desired moment, and be continued again at will, and for this reason much larger quantities of gas may be introduced; (4) there is no liquid applied together with the gas; (5) the pressure under which the gas enters is a much higher one; (6) there is no apprehension of accidents which are apt to happen when the two components for the development of the gas are introduced separately.

The carbonic-acid gas is taken from an iron reservoir, in which it is contained in the liquefied form; a double stop-cock is attached to regulate exactly the flow of the gas from the container, where it is, naturally enough, under high pressure. The carbonic acid in escaping from the reservoir at once assumes the gaseous form. From the reservoir it passes first into a bottle filled with water. This is for the purpose of enabling one to observe and to control the celerity of its escape. From this bottle it enters into an elastic tube with a nozzle for the rectum at the end. The nozzle having been inserted into the rectum the stop-cock is opened to such a limited extent that one is enabled to count the gas-bubbles passing through the water. A few seconds after the gas enters the rectum there is produced a sensation of warmth, then a slight desire to evacuate the bowel, which immediately passes away. In patients who avoid pressure and control the levator there is no voiding of gas, the muscular closure sufficing to retain it; in some cases it is advisable to secure closure by means of a rubber valve fastened to the rectal tube, which valve is pressed against the anal opening. If even this means should fail to securely close the opening one may simply increase the amount of gas entering by opening the stop-cock somewhat wider; then while more gas enters than escapes, a satisfactory filling up of the intestine takes place. The abdomen gradually becomes expanded and when the patient commences to complain of tension the induction is discontinued. It is well to inflate an empty rectum in order to avoid obstruction of the tube by fecal masses. The amount of gas entering the intestine may be measured; for practical purposes, however, it is of no importance to know the exact amount.

Rosenbach has given a very thorough and exact description of the behavior of the intestinal tract when inflated with carbonic-acid gas and his observations are of great value for diagnostic purposes. They are of great importance to us in so far as they furnish conclusive evidence that carbonic-acid gas may be employed with perfect impunity. When the inflation is carried out *ad maximum* the lower part of the abdomen becomes expanded, the abdominal walls are under great tension, but notwithstanding the liver is not at all or only very slightly pushed upward; on percussion over this organ the dulness remains about as before; there is no raising

of the diaphragm, and consequently no retraction of the lungs; no dyspnea is observed; no cyanosis. Persons experimented on may complain of disagreeable tension of the abdominal walls, but even this unpleasantness disappears more and more as the patient becomes accustomed to inflation.

Rosenbach's experiments confirm the well-known fact that we cannot, by way of the rectum, inflate the small intestine; especially conclusive in this regard are his experiments on the cadaver. The inflation cannot be carried out beyond a certain limit, which limit corresponds exactly to that noticed in the living. In attempting to force induction beyond this limit he did not succeed; gas would escape through the anus or it would find such strong resistance that no more could enter. He carefully opened the abdominal wall without injuring the intestine and was able to convince himself that notwithstanding the considerable meteorism the inflation did not extend beyond the ileocecal valve.

(To be continued.)

XEROSTOMIA, OR DRY MOUTH; REPORT OF A CASE.

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In 1888 Mr. Jonathan Hutchinson and Dr. Hadden, before the Clinical Society of London[1] called attention to the peculiar condition known as xerostomia, and each reported a number of instances of this very infrequent and little known affection. Several other cases of the disease were also mentioned at the same meeting by other members of the society. Some conception of its rarity may be formed from the meager number of references which I have been able to find in medical literature. Dr. Thomas Harris[2] of Manchester, England, in a very recently published paper upon this subject was not able to collect reports of more than twelve cases. But in looking over the literature I have been able to find reports of several other cases which either had escaped Dr. Harris' notice, or have been published subsequently to his paper, making the total number of cases less than two dozen in all.

The following case came under my notice some years ago. In addition to the usual clinical presentation of such cases, the patient presented symptoms of a very striking and very unusual order:

E. L., widower, sixty-four years of age, came under my observation on January 20, 1895, complaining of marked dryness of the mouth and a very painful condition of the tongue. His father died of pneumonia at the age of fifty-one years, his mother of Bright's disease, aged forty-seven. Two brothers were living and healthy. Two sisters were living, both highly nervous women, one the subject of *crises nerveuses*, as the patient expressed it. The other sister had been the subject of violent periodical headaches for years. There was no history of ordinary diseases of childhood, chorea, pneumonia, malarial or typhoid fever. The patient denied luetic or other venereal infection. He had always been of a markedly nervous disposition.

The dryness of the mouth came on about five months before coming under observation, and about six weeks after the tragic death of his wife. Its onset was insidious and it was only when the condition became well marked that the patient's attention was seriously called to his affliction.

At the time of the first examination the following note was made: "Mr. L. is a sparely nourished, extremely nervous man; skin is quite dry; mucous membrane of lips and eyelids pale; pupils normal, conjunctivæ moist; lips dry and slightly fissured. Tongue is dry, moderately fissured, and covered with grayish-brown sordes. Mucous membrane of mouth dry, but otherwise quite normal in appearance. Pharynx is likewise dry; tonsils are somewhat enlarged; teeth are in fairly good condition. The parotid, sublingual, and submaxillary glands are normal in size, and the patient denies the existence of any enlargement of these glands at any time. Cervical glands not enlarged. The acuity of the sense of taste is somewhat diminished."

Salivary papillæ were not prominent. The mucous membrane of the nose had been normal, as was also the sense of smell. The heart, lungs, liver, and spleen gave no apparent evidence of functional or organic abnormality. The urine contained a trace of albumin and some hyaline and granular casts. Repeated examinations for sugar were made, but always with a negative result. Several examinations of the blood showed a very slight secondary anemia.

The degree of the mouth dryness was at all times considerable—enough to cause marked discomfort, and so much so at times as to become intolerable. These fluctuations of intensity were very appreciable subjectively, the patient stating that the dryness was less marked during the cold, moist season; in hot, dry weather, on the other hand, there was a distinct diminution of the salivary secretion, with the resulting more marked dryness of the mouth.

The skin was markedly less active than previous to the onset of the trouble, prior to which time the patient perspired on the slightest provocation, but since the disturbance perspiration ordinarily was no longer excited except on considerable and prolonged physical exertion. Furthermore he had observed that an improvement in the salivary function was accompanied by a slight corresponding amelioration of the cutaneous perturbation, and the more marked the improvement of the former, the more evident the closer return to the normal of the latter. Objectively, at no time had there been any apparent sensory or motor disturbances of any kind whatsoever.

Diet had been largely limited to liquid and semi-solid food.

From the time of my first examination in 1895 until July, 1898, the patient followed a number of treatments of various nature, with varying success. Iron, iodid of potassium, various salts of arsenic, mercury, and pilocarpus in different forms have been administered. Electricity was also used for a considerable length of time, and treatment by suggestion was attempted, but with no better success than with electricity. For a time during an aggravated period of the affection the pilocarpus relieved the dryness, but soon the efficacy of this remedy was lost. Arsenic similarly proved useful for a comparatively short time. At the present time the patient is in about the same condition that he was when first seen about three and one-half years ago.

The clinical ensemble of xerostomia is a fairly constant entity, as exemplified by the majority of the reported cases, which in a general manner have a more or less evident resemblance to each other as regards symptomatology and prognostic termination. The arrest of the salivary secretion and the resulting dryness of the mouth are, *par excellence*, the preeminent symptoms of this malady. The greatly restricted, or complete cessation of the salivary flow not only involves the parotid, submaxillary, and sublingual glands, but likewise affects the secretion from the buccal glands. This inhibition of the salivary secretion in its aggravated forms is so considerable in certain cases as to result in conditions of actual pain. Enlargement of either the parotid, submaxillary or sublingual glands is exceptional and unusual, but I have been able to find reports of four such cases in literature in which the augmentation was limited in three to the parotid, and in the fourth case, in addition to the parotid involvement, the submaxillary became similarly affected. This increase in size of the parotid gland occurs in two different forms: one, in which the parotid gland remains permanently enlarged, and in the other in which the augmentation in size is intermittent and very variable in duration. The only case of permanent enlargement of the parotid in this disease is that reported by Dr. Thomas Harris[3]; those of temporary duration were recorded by Mr. Jonathan Hutchinson[4] and by Dr. Battle.[5] The case observed by Dr. Battle is the only one in which, in addition to the parotid enlargement, the submaxillary gland has shown implication. This consisted of an intermittent augmentation in size, recurring at intervals of three or four weeks.

Another curious symptomatic association with the mouth dryness in some cases is the accompanying dryness of the mucous membranes of the nose and eyeballs, so that in the latter case the patient is quite unable to shed tears. A case of this kind was published some years ago by professor Fraser of Edinburgh.[6] The sense of taste and smell in a few recorded instances is mentioned as having suffered depreciation, but this is rare and when present variable in its degree. In Dr. Harris' patient this impairment was moderately well marked.

The occurrence of a marked diminution of the cutaneous activity consequent upon the onset of the salivary disturbance in my patient, and the apparent existence of a functional intimacy between the salivary structures and the cutaneous apparatus is indeed curious in view of the fact that these organs are apparently totally unrelated, not only from an anatomic standpoint but likewise physiologically. This association of a cutaneous trouble with xerostomia is unique in the literature of dry mouth. The nature of this disturbance no doubt belongs to that same category as those in which the lacrimal and nasal secretions were interfered with.

As already mentioned, the salivary involvement includes physiologic derangement of more than the parotid glands alone. The other salivary and buccal glands also exhibit the same phenomena observed in the other implicated organ. The arrest of the gland secretions of the mouth cannot be explained on the ground of structural alterations in the parotids which are, apparently, very infrequent in the first place, and, moreover, the acceptance of such a conception would offer no pathologic solution of the functional implication of the other functionally affected structures.

The opportunities for the anatomic study of the organs from this class of cases have been extremely scanty and uncertain, but probably the records of future extended researches will bring evidence which will justify the classification of this disease as one of functional derangement of the nervous system. There is much, in the light of our present knowledge regarding this affection, which points to it as of this nature. The intimate relationship of the cutaneous function with the salivary trouble and the corresponding fluctuations of functional activity of both sets of organs, as well as the clinical evolution of the disease, in the case here reported, strongly suggests the probability of a functional disorder of the nervous mechanism. In same of the cases recorded a definite neurotic history is mentioned, but not in all. In the patient, the subject of this report, the neurotic factor is prominent and lends some additional support to the theory of the functional character of the malady.

Xerostomia is essentially a disease of middle or advanced life, the occurrence of a case in a subject under forty years of age being quite exceptional; the majority of the patients are more than fifty. It is

interesting to note that these patients are, with the exception of the features peculiar to this disease, apparently quite well in every other respect. Sex apparently predisposes to its production since almost all the cases thus far observed have occurred among women. The onset may either be sudden or, as is more often the case, insidious.

As regards treatment little can be said of a very certain nature except, perhaps, that the prognostic results have proved uniformly bad, as far as a complete cure is concerned. Dr. Arthur J. Sharp[7] has very recently published an instance in which much improvement occurred from the use of medium-sized doses of mercuric iodid and quassia. Pilocarpin as a therapeutic agent of temporary benefit has probably yielded the best results in the hands of others, as well as in my own.

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For more complete bibliographical references consult appended list to Professor Fraser's paper and Dr. Thomas Harris' article.

THE TREATMENT OF ADHERENT RETROPOSED UTERI.[1]

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THERE is much information desired regarding the exact manner in which the adhesions are produced. Certain cases give no history of labor or abortion, no attacks of gonorrhea, no unclean intra-uterine manipulations, yet upon examination, the retroversion and fixity are perfectly apparent. Upon operating for the relief of such a case little or no disease of the ovaries or tubes is found. The question suggests itself: Could not the effusion of lymph be due to the displaced uterus resting immobile upon a portion of bowel equally fixed, the rectum, and be an exponent of a low form of peritonitis due to migration of pathogenic germs from the bowel? It is this form that we see most often in robust servant-girls. The period at which the displacement occurred is unknown, as is the time when the union took place between the uterosacral and rectal structures, and the uterus. These women are very often untouched virgins. The bladder is attached low down on the uterus, and the anterior vaginal wall is remarkably short. Upon severing the adhesions the uterus can be lifted up, but upon being released immediately assumes a retroposition again. Retroflexion is as marked as retroversion. I have been unable to cure such cases by any operation. Fortunately they are rare. I have met with but five. I have classed them as congenital and incurable by any known operation. The vagina is too short for either hysterorrhaphy or the operation through the posterior cul-de-sac. They are either congenital or have originated early in infancy.

As we commonly meet with adherent retropositions, they can generally be traced to some form of infection, Abortion and labor followed by sepsis undoubtedly cause most of them; but gonorrhea is found to produce them also. According to the manner in which the infection reaches the peritoneum, the complicating lesions in tubes and ovaries will vary. The most pronounced adhesions are found in cases recently pregnant, and those cases also present the least amount of tubal disease. Where gonorrhea causes the retroposition and fixity the tubes are most damaged, and the adhesion between the uterus and the retro-uterine structures is least. As a result, we find that conservative treatment of the adnexa in the cases following pregnancy can be most often applied, while in cases of gonorrheic orgin, the adnexa are most frequently to be sacrificed.

Certain it is that at the time of operation, in all cases, the degree of adnexal disease is found to be far more extensive than was revealed by examination. And so it happens that those who have seen many of these cases from the peritoneal side are loath to recommend massage and forcible replacement.

Because of the very usual presence of more or less disease of the tubes and ovaries, operations for the relief of adherent retroposition are not to be judged by the number of pregnancies which follow. Rather is a pregnancy subsequent to the operation to be considered a triumph of such conservative work as has been applied to the adnexa. But should pregnancy follow any operation for adherent retroposition and be interrupted by conditions existing in the maternal organs, which conditions were present before the operation or induced by it, I should say that that operation was a failure.

I would, then, apply these tests to all operations which seek to remedy the conditions under discussion:

1. If the woman has conceived and aborted while the displacement existed, and this has not been followed by an increase in the pelvic lesions, the op-

[1] Read before the American Gynecological Society, Boston, May 24, 25, and 26, 1898.

eration should place her organs in such condition that she can go to full term.

2. If the woman has been sterile before the operation, and remains so afterward, the operation is to be judged by (*a*) the position of the uterus after a fair lapse of time; (*b*) the correction of disagreeable symptoms; (*c*) the improvement in the functions of the parts.

In all operations seeking the correction of these displacements the first step is to free the uterus and place it in the class of movable displacements. This accomplished, treatment of the coexistent tubal and ovarian disease is to be undertaken, and, finally, some means must be adopted to retain the replaced uterus in a position resembling the normal. But it it will not suffice to assemble the organs in a relatively normal relation. All operations upon the displaced uterus must be performed with due regard to its function. Any operation which very generally interrupts a future pregnancy is to be condemned; and an anterior fixation may as surely prevent ascent of the pregnant uterus as will a posterior attachment. If this anterior attachment is low down an interrupted pregnancy is to be expected. This objection does not attach to fixation high up. The operations which proceed between the bladder and uterus, and end by attaching the uterus beneath the bladder, are very generally condemned. They all proceed from above the uterus where the adnexal lesions are approached, and are open to all the objections which attach to operations which provide no escape for the oozing produced by severing adhesions and conservative treatment of the adnexa. The same objection is found to hysterorrhaphy. But the operation through the belly is really attended by less traumatism than that incident to separating the bladder from the uterus, and has the advantage over the latter of facility in execution and freedom from bad influence over a subsequent pregnancy.

But not merely the question of the position of the uterus is involved in the discussion. If it were it is probable that the hysterorrhaphy of Kelly would be the operation of election in all cases. Certainly it is to be so considered where removal of either ovary or tube is rendered necessary because of pus. And in that word, *necessary*, we have the whole gist of the matter. All operations anterior to and above the uterus make no provision for the escape of fluids. As a result, it is found "necessary" to remove certain adnexal lesions which may be conservatively treated; oozing and serous discharge could be drained away. I refer to those more chronic ovarian and tubal lesions which are unaccompanied by the formation of pus. These are ovarian apoplexy, cystic ovaries, occluded tubes, adherent ovaries and tubes, hydrosalpinx, and small broad-ligament cysts. To split open a diseased ovary, peel out the lining to the sac of a blood-clot, puncture cysts, trim the edges and suture, without making provision for the oozing which inevitably results, is to subject the patient to some risk when the operation is done through the belly. The same may be said regarding the treatment of hydrosalpinx and the formation by suture of a new mouth to the tube.

These lesions are undoubtedly brought about by pathogenic germs, and although no pus may be present at the time of operation, yet no one can insure the absence of germ life. It is undoubted that the conservative treatment through the belly of these various forms of tubal and ovarian disease is attended by rise in temperature and mortality. I do not think any forcible objection can be made to hysterorrhaphy, except that the removal of certain ovaries and tubes is found necessary, which removal would be unnecessary were the treatment by another route.

Almost any operation which invades the pelvic cavity can convert a fixed into a movable uterus. In that respect one has no advantage over another. Where incision of capsules containing fluid, the result of inflammation, is done, the escape of possibly infected fluid is necessary. This infection of the fluid is particularly likely in the case of occluded tubes. And in all such evacuating operations, whether performed upon the tube or ovary, the free and untrammeled escape of the discharge is of the utmost importance, not only to the individual as a whole, but also that the structure operated upon may exercise to its fullest its powers of repair. And if this evacuation be made in such a way that the parenchymatous oozing is removed immediately it is produced, as well as the fluid contents of the sac, it is apparent that hemostatic suture will not be necessary. Such a suture is unfortunate in all evacuating operations. It is strangulating to the tissues, thereby limiting repair, locks in discharges, and introduces a foreign material which must be taken care of.

If we can perform these evacuations without suture I believe the repair will be more thorough than when suture is used. To attempt this by any of the anterior operations would be to subject the patient to more danger than to remove the organs. Through the posterior cul-de-sac the pelvis is entered at its lowest point. When the incision is properly made and a certain posture of the patient secured, the operator can see as much as through the abdominal incision. Meeting a hydrosalpinx, an occluded thickened tube, cystic or apoplectic ovary, or small broad-ligament cyst, he is free to incise and trim the tissues as much as may be thought necessary, and to leave them oozing. Suturing is necessary only

when large portions of the ovary are removed, opening small, spouting vessels. Although all operations entering the pelvis are equally effective in severing adhesions, the posterior cul-de-sac operation, because of the position of the incision, enables the operator to apply conservatism in a class of cases and in a manner which he dare not attempt by any other operation.

The last question raised by me relates to the effectiveness of the various procedures in correcting the displacement and maintaining the uterus in a relatively normal position. There can be no doubt that the uterus is held upward and forward by hysterorrhaphy. I am willing to admit that the same is true of the intra-abdominal shortening and suture of the round ligament—the operations of Wylie and Dudley, and the intravaginal operation of Goffe. But I refuse to concede that the indications for treatment in adherent retroposition are met by the operation between the bladder and uterus, after Mackenrodt and Dührssen. These operations place the uterus forward, but also bind it down. Nothing can be said by me against them stronger than the statistics quoted by Edebohls. But having obtained such excellent results from another anterior operation, namely, hysterorrhaphy, the indication for the Mackenrodt or Dührssen or similar procedure scarcely exists apart from the more or less sentimental idea that a vaginal operation is done instead of an abdominal section.

Another operation, or rather, series of operations, is proposed for the relief of adherent, retroposed uteri. I have heard that by some the cul-de-sac is opened and the uterus freed, after which Alexander's operation is done. This unnecessarily elaborate combination would undoubtedly be admissible if Alexander's operation did not produce the frightful disability noticed as a sequel. There have been twenty-four inguinal hernias noted at the New York Hospital for Ruptured and Crippled, in the service of Drs. Bull and Coley. The hernias varied in size from a hen's egg to a cocoanut. With one exception they all occurred within one year, and sixteen within six months after the operation. Many were bilateral; they were produced by nearly every man who performs Alexander's operation in New York. I, myself, have reported twenty odd cases and showed photographs. Of course, there may have been duplicates in the two reports, but we are safe in saying that at least Drs. Bull and Coley have seen twenty-four cases. Can any other operation proposed for the relief of so slight a lesion as unattached retroversion show so many grave sequelæ? Then why introduce the element of hernia in the treatment of adherent cases? I fail to see the necessity for subjecting women with adherent uteri to the danger of inguinal hernia. I am convinced that hysterorrhaphy is the preferable operation of all those which proceed from in front of the uterus.

The Operation through the Posterior Cul-de-sac.—Up to January, 1897, I had operated fifty-one times. Up to May, 1895, I had operated six times. I have no means of knowing the result of this first work at the present time; but all the patients were well after three months and the uterus in good position, with one exception. I have to record one failure at three weeks in a gonorrheic woman who removed the dressings so she could masturbate. Of the next series of twelve cases, two reported pregnant and were confined by my assistant, Dr. Torrens Of the other thirty-three I have heard of one pregnancy.

Briefly described, the operation proceeds as follows: After thorough preparation of the vagina the uterus is curetted. Selecting the fold behind the cervix which marks the reflection of the vagina, I enter the cul-de-sac of Douglas. A careful digital exploration is made. The incision is then spread laterally until I can introduce the posterior retractor. The uterus is lifted up into the abdomen by the curved trowel, and several gauze pads are inserted into the pelvis. I then throw the patient into Trendelenburg's position, and am enabled to see and treat the adnexa as desired. Suffice it to say that I feel secure in incising large hydrosalpinx, cystic ovaries, subperitoneal cysts, blood-sacs in the ovaries, and in doing to these structures just so much suturing as they demand, but I try to avoid suturing for reasons stated. If I find a pus-focus in any structure I do not view the case as one of displacement, but as one of suppuration, a subject not under discussion.

I have not yet thought it necessary to remove any of the various results of tubal and ovarian inflammation, so commonly associated with retroversion, unless pus was present. I have operated while symptoms of gonorrhea were present and occluded tubes existed. I have removed small ovarian cystomata and replaced the adherent uterus. But I exclude all cases showing pus. After completing the operation I wipe the pelvis dry and introduce several folds of iodoform gauze just within the incision. These and the uterus are replaced *en masse*, the cervix being forced as high as the vagina will admit. I then lightly pack gauze around the cervix until that portion of the vagina which is above the levator ani muscle is almost filled. A stout roll of gauze is then made, varying in thickness and length to suit the width of the vagina. This is inserted transversely above the levator-ani fibers. It lies in front of the cervix, its ends resting in the lateral pelvic cavities.

By this the cervix is kept anchored and cannot descend. I sometimes pack the uterus with gauze. A stationary catheter is inserted and the sphincter ani dilated.

By the second day the bowels have moved, the bladder is irrigated, the catheter is withdrawn, and if intra-uterine packing has been used, it is removed. In from seven to ten days, varying with the amount of oozing produced by the operation, I place the patient in Sims' position and remove and renew the dressings under chloroform. The dressings are repeated until the cul-de-sac closes. The patient is out of bed in two and one-half weeks. I maintain the vaginal support for six weeks continuously, always employing the transverse pessary of gauze for this purpose. If amputation of the cervix and perineorrhaphy are indicated, they are performed in three months.

The operation, so far as I can find the results, succeeds perfectly. Several patients have reported pregnant, and two have been confined successfully. I seek by this operation to sever adhesions binding the uterus down. Next, those degrees of ovarian and tubal disease which, when the anterior operations are done, require removal of the organs, I treat conservatively. By replacing the uterus as I do, with the gauze behind the cervix, I seek obliteration of the cul-de-sac and the formation of a mass of plastic lymph between cervix, uterosacral ligaments, and rectum. As a result, the scar-tissue formed after healing is completed holds the cervix fixed upward. As the cervix cannot descend, the corpus uteri is thrown forward by the intra-abdominal pressure.

All those replacement operations which succeed obey one or two rules—either the corpus uteri is fastened high and forward, or else the cervix after replacement is fastened high and backward. The first fixes the body of the uterus, while my operation leaves it free.

The fear has been expressed that possibly hernia may occur through the scar. This is impossible, because the scar is thicker than the normal vagina, and is under the protection of the sacral promontory. That the operation succeeds is due to the formation of lymph effusion between the cervix, rectum, and uterosacral ligaments. The cervix being held high, and the corpus free, there is no tendency to abortion. The uterus is limited in its area of mobility in one direction only—downward movement of the cervix.

The after-treatment is undoubtedly troublesome, as is the treatment of all open wounds. It is also technical, and must be precisely carried out. To allow the cervix to descend and retroversion to occur before the post-cervical lymph has been converted into fibrous bands is to invite an ill result.

In December, 1896, I performed this operation upon a patient. One year afterward I opened the abdomen for appendicitis. I found the corpus uteri perfectly free. The direction of the bands suspending the cervix was as follows: One band, very broad, ran from deep in the cul-de-sac to a point two inches up on the rectum, measuring from the bottom of the cul-de-sac. Radiating from each side of the cul-de-sac were a number of slender bands extending to the uterosacral ligaments. The cul-de-sac was not obliterated, neither had the lymph been converted into a broad sheet. The ovaries and tubes were perfectly free.

Twice after doing this operation I have opened the belly at the same sitting; in one case, to inspect the appendix and to prove wrong the diagnosis of appendicitis, made by several surgeons; and again, to recover a lost gauze pad, the string of which had broken. In neither case could I see the gauze in the cul-de-sac, and the ovaries and tubes were entirely away from the gauze. Should the gauze be pushed high up behind the uterus the lymph forming around it would implicate the ovaries and tubes.

I elect one of two operations in all cases in which I operate for adherent retroposition. If there be occasion to remove the adnexa or a large tumor, I perform laparotomy and hysterorrhaphy. In all other cases I operate through the posterior vaginal fornix as I have described.

CLINICAL MEMORANDUM.

COLLOID DISEASE OF THE OMENTUM. GANGRENE OF THE LEG; AMPUTATION; RECOVERY.[1]

By. F. J. BOWEN, M.D.,
of Mt. Morris, N. Y.

Case I.—A man about sixty-seven years of age presented himself to me with what appeared to be a hydrocele. The sac, however, was not translucent. I tapped, and drew off a dark, watery, "cancerous" looking fluid. Within a short time the scrotum was again distended, and a few days afterward the fluid could be seen distending the inguinal canals and reaching the abdominal cavity. In the course of a few weeks the abdomen became so distended that tapping was decided upon. A large-sized trocar was employed, but the accumulation would not flow; it was found to be thick and jelly-like, of a white, transparent color.

I suggested that some one else see the case. My medical friend very promptly made a diagnosis of ascites, and repeated the operation with the same result. The operation was repeated once afterward by a doctor sent to the

[1] Read before the Livingston County, N. Y., Medical Society.

patient by relatives without previously acquainting the patient with what he proposed doing.

The abdomen gradually became enormously distended, and the whole lower part of the body became infiltrated with this peculiar substance which oozed from the skin. Death occurred in the course of six or eight months from exhaustion. A post-mortem revealed two or three pailfuls of this peculiar material in the abdominal cavity. The intestines were pigmented. The omentum was a shriveled, thickened mass about the size and thickness of one's hand, and the fingers crumpled through it very readily. It reminded me of a slice of turnip, punched full of holes, thus forming the stroma, which yielded this colloid material. The diagnosis, of course, was colloid disease of the omentum.

CASE II.—The second case I report to show that a physician should never abandon what appears to be a hopeless case as long as there is a thing left for him to do; and also that it may assist one to decide as to the advisability of operation in a similar case.

A farmer, nearly sixty years of age, with no history of rheumatism, but of more or less hard work, began to have symptoms of heart failure. In the course of a year, when I was called again, I found his feet and ankles edematous. A very faint aortic regurgitant murmur could now be heard for the first time. A few days later it could be seen that the left ventricle was undergoing what I should consider rapid dilatation, the apex beat changing location perceptibly. He was put on tincture of digitalis and nux vomica, with nitroglycerin to be taken at the time of the sinking spells. The edema advanced in spite of treatment. At this time, feeling that something extraordinary should be done, he was given the "Da Costa" tablet, with the result that he was let down more rapidly than ever. He became partially comatose, so that for a week he hardly realized his condition or recognized members of his family.

Compression from the edema stopped the circulation in the feet. Punctures were made through the skin. He was again placed on digitalis and nux vomica, which, with compound jalap powder, gradually reduced the edema, the heart becoming stronger. Circulation returned to his right foot, but the left was damaged beyond repair. The gangrene extended to within about two inches of the knee. His general condition improved. His heart became able to run itself, which enabled him to take iron and a bottle of cod-liver oil. The gangrenous limb was kept packed in carbolized charcoal, awaiting the time when we could bury all of him together. Hot weather came on. The odor began to annoy the family, and one day he sent for me and asked my opinion of amputation. He was told frankly that he understood the condition of his heart. It was doubtful if he could survive an operation, but that he certainly could not live long without it. He replied that I could get ready and do it.

He was again placed on digitalis and nux vomica, and amputation above the knee decided upon for the third day after. Dr. Kneeland of Dalton was asked to attend to the most responsible part of the operation, the anesthetic. Ether was given. The heart showed the strengthening effects of the medicine, and pounded its way through without a skip. Dr. Brown of Nunda assisted at the operation. As near as practicable it was done aseptically. The silk was boiled, and every vessel was tied with it. No iodoform was used with the first dressing. The gauze had been sublimated, but afterward boiled, so that it was simply sterile. Following the operation he was given whisky, milk, and protonuclein. The wound healed very promptly, and the man is alive to-day, thirty months after the operation.

MEDICAL PROGRESS.

The Sudden Death of Young Infants.—BERTHOLD (*Centralbl. für Gynäkol.*, August 6, 1898) calls attention to the rapidity with which young infants sometimes die, although no cause is apparent. Sometimes at autopsy an enlarged thymus gland has been found, so that the writer believes such a gland to be the cause of death. According to his idea hypertrophy of the thymus may, unaided, cause death in young infants. In suitable cases, therefore, when the life of a child is threatened, a hypertrophic thymus may be removed in whole or in part.

Excesses in the Treatment of Infants. — NEUMANN (*Centralbl. für Gynäkol.*, August 6, 1898) refers to some of the injuries which may be inflicted upon very young infants by too much zeal in the care of them. In the first place, the bath may infect an otherwise sterile navel string. A rapid and complete mumification is the best protection against this accident, and the rule should, therefore, be to keep the navel dry after the child has been given its first bath. Another danger which often accompanies a bath is the too great cooling of the child's body. The careful cleansing of the mouth of the new-born child is unnecessary and often harmful, since it may result in infiltration of the mucous membrane, or even in ulceration. The snipping of the frenum of the child and the lancing of the gums are useless procedures, which are not entirely given up as yet. In case a healthy child is born the physician should be most careful not to depart from hygienic and dietetic rules. If a disease develops he should be ready to meet it in its beginning, hence the necessity of constant supervision of a new-born child.

The Position of the Transverse Colon.—COHAN (*Gaz. Heb. de Med. et de Chir.*, June 5, 1898) ridicules the idea that there is a single position for the transverse colon, which he says is the most movable part of the large intestine and may be found in any portion of the abdominal cavity. If the colon and its mesocolon are short, its position is usually transverse and rectolinear. If they are long it occupies a lower position in the abdomen, often reaching into the pelvis. In other conditions it may be drawn upward so as to occupy an unusually high position. Its right extremity is always situated lower than the left. Its great mobility causes it to lie in front of most of the abdominal organs. It may thus be a source of error in clinical examination of the abdomen.

The Medical News.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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Address the Editor: J. RIDDLE GOFFE, M.D.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK.

Subscription Price, including postage in U. S. and Canada.

PER ANNUM IN ADVANCE	$4.00
SINGLE COPIES	.10
WITH THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, PER ANNUM	7.50

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SATURDAY, OCTOBER 29, 1898.

THE PLAGUE IN VIENNA, AND THE REGULATION OF BACTERIOLOGIC INVESTIGATION OF EPIDEMIC DISEASE.

THE announcement of the death in the General Hospital at Vienna of one of the attendants in the bacteriologic laboratory of Professor Nothnagel's clinic supposedly from bubonic plague, looked at first as though it might be a newspaper canard, for now that Spanish war alarms are o'er, some of the papers find themselves sadly put to it to find the necessary matter, of a kind sufficiently sensational, to tickle the cloyed appetites of readers accustomed to be regaled at breakfast with a battle or two and a sea fight; and so not everything that finds its way to the composing-room is gospel truth. There comes, however, as we go to press, the confirmation of the first dread rumor and its sad substantiation by the report of the death, from the same disease, of Dr. Müller, Professor Nothnagel's assistant.

It is not at all likely that the disease will spread beyond those who have been in immediate contact with the infecting material. That there is very little cause for alarm may be judged from the fact that of all those (some twenty in number) sent by the various governments of Europe to investigate the disease in India where it was raging severely at the time, but one, so far as we know, contracted the disease. He was a member of the German commission, who cut himself while performing an autopsy, and whose attack was very mild and ended in recovery. There is naturally not a little excitement among the people of Vienna, though Virchow and other distinguished medical men have sent their positive assurance that the disease, though infective, is *not* contagious, and there is no liability to an epidemic. In a few days the episode will have ceased to occupy public attention.

Another medical martyr is added to the list of those who have in recent years laid down their lives in the study of disease. The list is not a short one now. Not the least distinguished name on it will be that of the brilliant young medical man, some of whose work had already attracted attention, before the report of the Austrian plague commission brought him prominently before the medical world. The lesson of his death is an important one and should not be overlooked. It is that in handling virulent cultures of bacteria as in everything else, however fraught with danger it may be, familiarity breeds a contempt of danger that finally results in neglect of the proper precautions.

The purpose of study is a most commendable one; it deserves encouragement in every possible way. The detailed study of this very bacillus of the plague, attended as it has been always by the most serious danger, the danger being faced by hundreds of observers without a thought that they were heroes, has given the world a knowledge of the exact nature of the cause of the awful black plague so much dreaded heretofore, that will easily enable the profession to guard Europe from its ravages for all time. While we have insisted on the improbability of any epidemic of the disease attacking the city, there is no doubt that it is extremely imprudent, to say the least, to import the germs of foreign epidemic disease into the heart of crowded centers of population.

There is no necessity that such studies should be undertaken in large cities. So far no epidemic of disease has ever been started by carelessness in the handling of bacterial cultures. As the bacteria specifically causative of zymotic diseases become better known, however, and more and more

varieties of virulent cultures are kept for purposes of study, it is evident that the dangers of such an outbreak of disease from neglect of proper precautions will be always on the increase. One epidemic thus started might be enough by the popular feeling it would justly create, to hamper bacteriologic study for years.

It would seem, therefore, that now is the proper time to take precautions against such a deplorable possibility. An ounce of prevention is worth a pound of cure. A law, for instance, forbidding the bringing of cultures of any disease, not endemic to a city, into that city except under most stringent precautions would seem to be the remedy, for scientific enthusiasm will sometimes make even the most level-headed rash. A law making all experimental work with such cultures illegal, except in properly guarded laboratories and not situated in cities, would seem to be no more than the circumstances demand.

Of course there is the danger and there will surely be the protest on the part of bacteriologists that such regulations would hinder the progress of science. Perhaps, to some slight degree, it would at the present time, because research laboratories are unfortunately situated only in large cities; but a proper care for the public health seems to demand such regulation. We might have learned more of certain of the contagious diseases, smallpox for instance, if in recent times we had not quarantined so thoroughly the cases that occurred, but no medical man objects for this reason to the quarantine. Certainly even now anything like experimental study of the supposed bacillus of yellow fever conducted in the summer time especially in any of our large cities would be against the better judgment of the medical profession generally in such matters.

There is involved in this matter a grave weight of responsibility on the part of the medical profession toward the public health. Nothing of a serious nature has yet occurred, but it behooves us to preclude the possibility of anything occurring. The fair name of modern scientific medicine is too precious to permit of its being smirched by the blot of an epidemic of disease introduced into a closely packed population because of defective precautions during the study or demonstration of its bacterial cause. The matter is, in its way at least, as important as the manufacture of high-grade explosives. No amount of care or knowledge of the personal danger involved will ever quite protect men from becoming habituated to the risk involved and being tempted to some indiscretion whose consequences may be far-reaching. Measures should therefore be taken at once, the initiative coming from the medical profession itself, for the legal regulation of such study, lest some sad mistake should precipitate an outburst of popular feeling that would seriously hamper the progress of scientific medicine.

CHRISTIAN SCIENCE AND NIHILISTIC THERAPEUTICS.

THE cable last week brought us the sad news of the death of a well-known American literary man in England at the untimely age of forty-two. It brought us also the news that he had been tended in his last illness, at his own request, by a Christian scientist, and that an investigation into the cause of his death had to be legally made before a burial permit was issued. Harold Frederic was not the first, by any means, among the intelligent class of the community who took up with the latest fad, Christian science. His state of mind is by no means a rare one even among people of his class. It would seem worth the while then to stop a moment and ask ourselves why it is so; and then the natural and very practical question, Is there anything in the attitude of the modern physician toward his art that is an occasion for it? It is very easy to say that the sect or school (which shall we call it?) is neither Christian nor scientific; that no Christian sect would admit any kinship with them, and no scientist allow for a moment any claim of theirs to be permitted to hang, however precariously, on the skirts of science. To sum the whole thing up as an imposture, brought into prominence because it is the fad of the moment, and then put the matter aside as if that were all about it, is one way of disposing of the question but not a very satisfactory way.

The fact is that this is an age of unrest and of unsettled opinions. The old faiths are losing their hold on many minds and among the others the faith in the physician. There is a reason for this want of medical faith just now more than before, because practical medicine is in a transition stage. At least it comes to the lay mind that this transition is taking place just now, though it has been insensibly

in progress for a good while. The abandonment by medical men of the old doctrine of specifics for disease is just being realized by the non-medical. In the midst of the mental state of hesitation in medical matters induced by the realization of this change of base, the time spirit of heresy, for the Greek root αἵρεσις means free choice, has gathered worshipers before some odd medical shrines. This is essentially the age of quacks and charlatans, of faith cure and mind cure, of water cure and air cure, of drug cure and diet cure, while the regular practitioner no longer claims to cure at all, but only to help Nature in her effort to restore the equilibrium of organic economy.

Meantime physicians themselves have been not a little to blame for the present condition of therapeutic incredulity in the popular mind. With the gain in our knowledge of pathology that followed the great work of Rokitansky and the Vienna school, there came a wave of nihilistic therapeutics over scientific medicine. To the pathologist, who could point out on the autopsy-table the absolutely irreparable destruction of tissue in kidney and liver and intestine and heart and lungs, it seemed absurd to give medicines for organic disease, and so it was and is, if there is included in its exhibition any hope of curing the organism by the repair of organic changes. But there is another side to the question.

Humboldt when comparatively young is said to have remarked that he would not care to be responsible for the invention of an optical instrument so faulty as is the human eye. Later on in life, he expressed his admiration for it in no measured terms, as an optical instrument that had within itself wonderful powers of compensation. The human body is such an instrument. It has within itself almost untold powers of compensating for even organic changes that have taken place.

Symptomatic treatment, though the term has been the subject of no little derisive aspersion, is the fulfilment of the mission of therapeutics to aid Nature in her compensatory effort, for symptoms are but the signs of failing compensation, the guides as to when and where and how we may be of assistance to Nature in her struggle with disease. Treatment is no longer the direct battle that it was for so long thought to be with the *ens morbi* itself, but it has thereby lost nothing of its dignity as the practical expression of what medicine can do for the patient. The young man straight from his books and his autopsies and his microscope and his bacteria may think little of symptomatic treatment because it smacks of empiricism and has none of the direct demonstrative effect that strict science demands, but the old clinician after long years in the actual study of cases, after long experience in the treatment of disease, and withal a knowledge of pathology that may be thoroughly up to date, *knows* how much good his remedies have done and honors them accordingly.

There has been too much expression given, and by those least justified in giving it, to a lack of faith in remedial measures. Under the influence of the feeling of disrespect for what is called mere symptomatic treatment, by certain misguided, mostly young medical men, the good that may be done for symptoms is, as one of our distinguished old clinicians has recently said, left undone until symptoms have gotten beyond control; while if they had been conscientiously recognized and treated from the beginning much good might have been accomplished. The practice of medicine is an art, not a science, and is likely to continue so for many years yet to come. It is bound to have in it those elements of the personal that make the practise of any art unsatisfactory to its devotees, because they fail so notably to reach their ideals, and recognize that fact. This spirit of dissatisfaction is in itself, however, a blessed privilege, for it is the surest earnest of renewed and continued effort, the best mark that the art is ascendant, not on the wane.

It is a matter of serious importance, however, that this spirit of dissatisfaction at a period of transition in medical beliefs, such as exists at present, should not be communicated to those who are unable to realize its significance, nor gage its promise for future progress, but who simply translate it into terms of failure of the ordinary therapeutic methods so long accredited. As said, the members of the profession most liable to convey such impressions, while calculated by their scientific attainments to win credence and acceptance for statements of theirs, are, as a rule, just the ones whose relations to the practical treatment of disease have least fitted them for the expression of therapeutic or atherapeutic opinions. It is much easier to be a nihilist in therapeutics, as in most other things, than to be the inventor of use-

ful curative procedures. But the world will honor not the men, who gave up because the system was imperfect and wished to wait inactively for the future to reveal better methods, but those who manfully set their hands to the work, and though with imperfect tools, accomplished to the best of their ability the work their hands found to do—struggling through darkness to the light—*per aspera ad astra*.

TYPHOID FEVER IN THE FRENCH ARMY.

We have learned that typhoid stools when mixed with drinking-water will multiply the number of cases of typhoid fever in a camp. This simple lesson had already been learned by many communities in civil life, recently at Maidstone for instance, but it was reserved for Camp Thomas to teach it to the army officers. There was served daily at this camp the diet which the Assyrian monarch prescribed, and the results show what a meaning curse it was that his cup-bearer, Rab-shakeh, hurled into the face of the King of Israel. They learned the same lesson in the French army a good many years ago. Perhaps it may be interesting to see how they profited by their experience.

In 1895 the Eleventh Army Corps of the French army numbered about 11,000 men, of whom some 600 had typhoid fever every year. Something less than 100 of these patients died. Since 1886 the mortality has never reached 30; while in 1896 there were only 8 deaths, and in 1897 only 7 from this cause in this large body of men. The officers have been learning their lesson, and as a result, the number of cases of typhoid fever which developed annually in this portion of the army has been divided by 24, and the mortality from typhoid by 25.

It was not by reason of natural surroundings that the present favorable figures have been obtained. The Eleventh Corps is stationed in one of the worst districts of France, a region of which it has been said, "Tuberculosis kills the inhabitants, and typhoid fever keeps the doctors alive." Most of the villages are in an unsanitary condition. Leaky privy-vaults and open ditches containing fecal matter contaminate the subsoil, while in the absence of running water, well water is used for drinking and cooking. The municipal councils are for the most part innocent of any knowledge of hygienic laws, and public disinfection, isolated treatment of infectious disease, or even official notification of the same are usually neglected. Nevertheless in such unfavorable surroundings the sanitary corps of the army has been able little by little to introduce measures which have raised the standard of health in that district, until its soldiers show the very best record of the whole army. These sanitary measures are briefly: Continuous ventilation of the sleeping apartments; frequent whitewashing of the walls; rendering the floors impervious by coal-tar; removal of dust in a moist condition; introduction of hand-basins and shower-baths; increased rations in the field, and a greater variety of food; substitution of tight movable water-closets for the old privies and ditches.

In spite of these changes, typhoid fever continued its ravages, especially in certain garrisons, although in lessened degree. Well water was still in almost universal use.

In 1889 most of the wells were condemned and, wherever possible, spring water was conveyed to the garrisons. Where this was not practicable Pasteur-Chamberland filters were provided. As a result of these measures the number of cases of typhoid fever fell below 10 per cent. per year for the first time in the history of this army corps, while the deaths fell below 20. As long as the region in which it is situated is so completely infected with typhoid as it still is, it will be impossible to stamp the disease out of the army entirely; for no matter how carefully the water-supply of the garrison is guarded, one cannot prevent a soldier from drinking outside of the barracks.

If typhoid fever breaks out or is suspected, the clothing and bed-clothing of the sick soldier are sterilized by steam under pressure at 115° C. (239° F.), and the walls and floor of his apartment are disinfected by powders or by solutions.

Is there anything for America to learn from this account of France's experience as given in the *Gazette Medicale de Nantes*? Could any words be more suitable to the occasion than those with which the writer closes? "Nowhere is there a plainer triumph of prophylaxis, based upon a knowledge of the general causes of disease, than in our land army, . . . thanks to the ingenuity, vigilance, and energy of the *eminent technical chiefs*, to whom the sanitary direction of affairs has been so happily confided. It is also necessary to recognize that success is in part

due to the solicitude and authority of the commander, who has exacted obedience to these preventive measures." "*Eminent technical chiefs!*" And commanders who command!

ECHOES AND NEWS.

Mules in Cuba.—The mules sent from the United States to Cuba seem to thrive well there, as only twenty-two have died out of the 1200 sent.

The Wyoming State Medical Society.—The second regular meeting of this youthful organization will be held at the Wyoming General Hospital, Rock Springs, Wyoming, Tuesday, November 1, 1898. A unique number on the program is the report of a case of "foxtail infection."

An Antivivisectionist and Professor Virchow.—During the course of the complimentary dinner tendered Professor Virchow upon his recent visit to London an anonymous telegram was handed to the guest of the evening containing the following words: "Get thee hence, vile vivisector! England spurns thee!"

Poisoned by Toadstools.—Three deaths occurred recently in Trenton, N. J., from eating toadstools supposed to be mushrooms. Five other members of the same family are seriously ill from the same cause, but are expected to recover. The distinction between mushrooms and toadstools often quoted in the country districts is apropos: "Eat them; if they kill you, you will know they are toadstools; if you live, they are mushrooms."

A Spanish Military Academy of Health.—It appears that Spain has at last learned something from her Cuban experience. For the better education of surgeons about to enter the Spanish army a Military Academy of Health has been established at Madrid. Especial attention will be paid to the study of the pathology of tropical climates, the organization of the Spanish and foreign armies in matters of health, regulations, and services, sanitary material, and ambulance tactics.

Death from Stramonium.—The seeds of the *datura stramonium* recently claimed their annual victim in Newark, N. J., in the person of a five-year-old child. It is said that there has been in that city at least one death from this cause every year for the past twenty-five years. The practice prevailing in many of our large cities, as well as in the smaller ones, of allowing vacant lots to produce year after year crops of noxious and poisonous weeds cannot be too strongly condemned. It was by seeds procured from such sources that the recorded fatality was effected.

Longevity in Europe.—From statistics compiled from the mortality bills of the principal European countries from 1881 to 1890 inclusive, the average life in Norway and Sweden is found to be 50 years; England, 45 years and 3 months; Belgium, 44 years and 11 months; Switzerland, 44 years and 4 months; France, 43 years and 6 months; Austria, 39 years and 8 months; Prussia and Italy, 39 years; Bavaria, 36 years, and Spain 32 years and 4 months. From this it would appear that longevity varies directly as the latitude and inversely as the mean temperature.

Army Contract Surgeons to Be Examined.—An order has been issued by the War Department directing the Surgeon-General to convene a board of medical officers to examine acting assistant-surgeons now in the service and candidates for appointment. Up to the present time appointments have been made by the Surgeon-General on professional and such other indorsements as the candidates have been able to present. This course was necessary because of the urgent necessities of the service, and the fact that medical officers were not available for duty on the examining boards.

Injured While Experimenting with Liquefied Air.—While experimenting with liquefied air at the Brooklyn Polytechnic Institute last week, Professor Irving W. Fay of the Chemistry Department was seriously injured about the face, and will probably lose the sight of one eye. He had mixed with it some red phosphorus, and poured out the mass upon a piece of paper on the table, and was watching the changes take place in the phosphorus. He then took up a glass rod and separated the particles, when the explosion occurred which produced the injury. Fortunately, the force of the explosion was exerted downward, wrecking the table.

Contagion in a Public School.—There has been an epidemic of diphtheria recently among the public-school children of Scranton, Pa. The parents of one child who contracted the disease have brought suit for damages to the amount of $25,000 against the school authorities and the contractor who was renovating the plumbing of the school, alleging that the disease was due to sewer-gas poisoning. The plaintiffs will undoubtedly encounter no little difficulty in establishing their claim that the disease was due to sewer-gas poisoning. Indeed, some of the best authorities assert that diphtheria cannot be contracted in that way.

The Troops in Cuba.—Brigadier-General Lawton, who arrived last week on the transport "Michigan," is credited with the following statement: "The American troops, both regulars and volunteers, are very discontented in Cuba, and want to return home. In my mind, the time will never come when the American soldier will serve in Cuba contentedly." He does not like the country and he does not care much for the people. About twenty per cent. of the troops are sick, but this is not due to their not being acclimated, for the same percentage of sickness prevails among the inhabitants. The immunes have not escaped, as was expected, for many of them are sick.

Physicians Honored.—Sir William MacCormac, Bart., and Sir Francis Laking have been appointed Knights Commander of the Royal Victorian Order. Mr. A. D. Frip and Fleet-Surgeon A. G. Dalmego have been appointed members of the fourth class of this order.

These physicians were medical advisers to the Prince of Wales in his recent illness. The Royal Victorian order is bestowed upon "such persons, being subjects of the British Crown, as may have rendered extraordinary, important, or personal service to Her Majesty, her heirs, and successors, and who have merited Her Majesty's royal favor." Only two other physicians are members of this order.

Yellow Fever in the United States.—The recent epidemic of yellow fever was confined almost exclusively to the two States, Louisiana and Mississippi. The total number of cases recorded by the Marine Hospital Service up to October 22nd was 2571 with 141 deaths, a mortality of 5½ per cent. The recent cold weather, which has fortunately prevailed in the Southern Mississippi Valley, has stayed the epidemic, allayed the fears of the panic-stricken inhabitants and raised the exacting quarantine. From this time on it is to be expected that State officials may be found at their posts of duty and the importunate taxpayer may find the proper officer to receive his obligations of citizenship.

Sickness at Manila.—The report of October 23d showed 1801 cases of sickness from all causes among the troops stationed at Manila. Many of the cases are only temporary, and but comparatively few cases of serious illness are reported. There have been a few cases of smallpox. Three deaths from typhoid occurred during last week, and eleven deaths from other causes. One of the most serious difficulties with which the surgeons have to contend is the drunkenness among the soldiers. Manila is full of saloons, and more are preparing to open, so that the outlook in this direction is anything but favorable. Medical supplies have been purchased at Yokohama, and work on the new hospital is proceeding rapidly.

The Annual Meeting of the New York County Medical Society.—The annual meeting of this Society was held at the Academy of Medicine, Monday evening, October 24th. The principal business of the meeting was the election of officers for the ensuing year. The members were divided into two factions, one composed of those who had been active in securing legislation looking to the reform of dispensary abuses, and their friends, and the other faction composed of those conservative members who are disposed to let dispensary and hospital matters regulate themselves. The result was a complete triumph for the latter element. The following officers were elected: President, S. O. Van der Poel; first vice-president, Henry C. Coe; second vice-president, J. Clifton Edgar; secretary, Wm. E. Bullard; treasurer, John S. Warren, the latter being the only candidate elected on the opposition ticket.

Workings of the New Vaccination Act in England.—As a sample of the "conscientious objection" to vaccination the following case is cited: At the Cardiff police court, on September 24th, a young man was granted an exemption certificate on the ground of conscientious objection to the vaccination of his child. One of the magistrates, a physician, took the opportunity to remark that they as magistrates had "conscientious objections" to granting such certificates. He added that the magistrates had a conscientious belief that the law permitted an act of gross injustice to the child, and they regarded the conscience clause as a great farce which would one day end in a tragedy. At another place exemption certificates were issued by two courts to 660 persons for about 1670 children in two hours and a half, at the fee of two shillings a case. The objectors were brought into the court in batches of ten to twenty, and asked whether they had any conscientious objections. Some replied verbally, but many considered a nod of the head as sufficient evidence of their scruples.

Dr. Koch's Recent Visit to Rome.—After a stay at Rome of more than a month, engaged in malarial reseaches, Dr. Koch has returned to Berlin. He was accompanied by his associates, Drs. Pfeiffer and Kossel. One of the objects he had in view in visiting Rome was to ascertain how far the Italian malaria coincides with the tropical form of the same malady, and he has satisfied himself that in all essentials they are identical. He has also been able to indicate properties hitherto unnoticed in the pathogenic germ of malaria as found external to man—properties possessing a distinct prophylactic value toward limiting the diffusion of the malady if not in arresting it at its point of origin. He has, however, to supplement this part of his researches by others on the same lines, and with this object he intends to return to Italy in the spring of 1899. So far he has found nothing to add on the clinical side of the subject; and the Roman school do not disguise their satisfaction at this frank testimony to the practical worth of their painstaking contributions to treatment. They, in turn, are profuse in their acknowledgments of Professor Koch's scientific elucidation of points hitherto left obscure, and are grateful for the impulse he has given to the investigation of problems the solution of which seems now "within measurable distance.

The Plague in India.—According to the latest reports there is a slight increase in both the total mortality and death-rate from the plague. During the two years which have elapsed since its appearance the plague has claimed more than 100,000 victims, and as yet no satisfactory method of treatment has been devised. The inoculation experiments have not met with the success anticipated, and owing to native prejudice cannot be fully carried out. It is claimed that the use of antitoxic serum has been successful in 47 per cent. of the cases treated, but this is a very small percentage for, as in smallpox, a certain number recover with little or no treatment. Of those treated in hospitals, 50 per cent. die within forty-eight hours, and of those who live over three days 50 per cent. recover. From observations carried on since the outbreak two years ago, and from the history of previous epidemics, its spread is found to be slow and the area of invasion small, it being still confined almost entirely to the Bombay Presidency. Owing to the hardships entailed by the former quarantine regulations and to the fact that the plague is likely to persist for several years, these regulations have been modified. A strict medical examination

with disinfection has been established at suitable centers, and the old system of passes abolished. Persons coming from infected regions are kept under surveillance for ten days. But these regulations it is hoped will confine the disease within its present bounds by limiting travel to healthy persons.—*Lancet.*

CORRESPONDENCE.

PROFESSOR VIRCHOW'S LECTURE.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—Concerning the address of Virchow which you editorially review in your issue of October 22nd, will you kindly inform the readers of the NEWS in what journals the address has been published?

Truly yours,

GEO. M. GOULD, M.D.

PHILADELPHIA, October 22, 1898.

[We are glad of this opportunity to inform the readers of the MEDICAL NEWS that the editorial review referred to was based upon the original, authentic address as published in the *British Medical Journal.* We are also pleased to call attention to the commendable journalistic enterprise of our esteemed contemporary, the *Philadelphia Medical Journal,* which published the lecture in full, simultaneously with the *British Medical Journal.* The lecture has also appeared in the *New York Sun.*—ED.]

THE FEVER AT HATTIESBURG, MISS.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—The fever we have at Hattiesburg has been declared to be yellow fever, but why I cannot see. It may be it was so declared because of its apparent strangeness, but, nevertheless, I do not believe it to be real yellow fever. Neither do I accept "yellowoid," the new name given by Dr. Souchon of New Orleans to the fever, as a suitable one for the fever here. Yellowoid is an indefinite word and, therefore, we do not know definitely what Dr. Souchon means when he says a disease is "yellowoid." Yellowoid literally means yellow-like, and therefore we might say it is like gold, yellow corn, or anything else that is yellow. If yellow fever was called "yellow" simply, then we might conclude that the doctor means like yellow fever when he says it is yellowoid, but unfortunately for him, yellow fever is called yellow fever.

It is true that jaundice is called "yellows," and, therefore, with some propriety, he might call any disease that resembles, or is like yellows, yellowoid, but unfortunately for him again all who have the fever do not turn yellow, and then again, a person may have the "yellows" without having any fever at all. So "yellowoid" is not the name for our fever.

There is another peculiarity about this fever; it is not contagious, but persons in the same locality where others have it are liable to it too if they are not careful about their health, whether they come in contact with the sufferer or not. This satisfies me that it is atmospheric; that is, it is taken from the air; there are conditions in the air that produce it in one who is not careful in preserving his health. So the yearly alarm we are having is due principally to unskilled boards of health and experts.

ISAAC L. PEEBLES, M.D.

HATTIESBURG, MISS., October 18, 1898.

MEDICAL MATTERS IN CINCINNATI.

[From a Special Correspondent.]

CINCINNATI, October 22, 1898.

AT the regular meeting of the Academy of Medicine, on October 10th, Dr. H. J. Whitacre presented a paper, entitled "A Pathological Basis for the Treatment of Bright's Disease," which was illustrated by the projection-microscope and lantern slides. Delafield's classification of kidney diseases was explained, and each lesion profusely illustrated by photomicrographs and sections. About fifty illustrations were used, and among them pictures of Richard Bright and Malpighius, taken from rare old steel engravings. The paper was discussed by Drs. Rowe, Bettman, and Kiely. Dr. Bettman defended the old classification into an acute and chronic parenchymatous nephritis and an interstitial nephritis; Dr. Rowe made some interesting remarks on the histology of the kidney, and Dr. Kiely spoke briefly on Bright's disease as a constitutional affection in which a lesion of the kidney might be present or absent.

At the meeting of October 17th, Dr. Robert Sattler presented a paper, entitled "Recent Advances in Ophthalmology of Interest to the General Practitioner." The operative treatment of myopia and the use of a two-per-cent. solution of nitrate of silver in ophthalmia neonatorum were the points of main interest. Dr. Christian discussed the paper at length, and aptly referred to the myopic individual as one of the worst types of a cripple. That part of the paper refering to ophthalmia neonatorum was further discussed by Drs. Caldwell, Schwab, Brown, and Thompson.

The Cincinnati Research Society held its first meeting of the year on Thursday, October 13th, in the laboratory of the Cincinnati College of Medicine and Surgery. Dr. Greiwe presented a series of sections showing syphilitic disease of the spinal cord. The sections were taken from a single case in which were present the lesions of a syphilitic meningitis, gummata of the cord and meninges, and softening of the cord in both the grey area and around the central canal. The sections were stained by the Weigert and Pal methods. This organization of a limited number of the scientific workers of Cincinnati did excellent work during the last season, and renewed interest is demonstrated by its members.

Dr. James T. Whittaker selected as the subject of a college lecture last week a very unusual epidemic of smallpox, occurring near Lima, Ohio, to which he had been called in consultation. The epidemic was unusual in the fact that the diagnosis was difficult, and most of the cases had been called chicken-pox and measles by a majority of the local practitioners. None of these patients had been vaccinated, and the epidemic illustrated the necessity of wholesale vaccination in the presence of a

mere suspicion of smallpox. Such precaution had not been taken in this community.

The Board of Managers of the Presbyterian Hospital has issued invitations to the opening of the new McDonald Hospital Building on November 1st.

The Miami Valley Medical Society will hold its forty-second semi-annual meeting at Loveland, Ohio, on Tuesday, November 1st. The Cincinnati physicians appearing on the program are Drs. J. C. Oliver, T. V. Fitzpatrick, C. A. L. Reed, Philip Zenner, F. W. Langdon, and C. M. Paul.

The enrolment at the Ohio and at the Miami Medical College is about the same as last year. That of the former is 205, and of the latter 98.

The vital-statistics report of the Board of Health for September shows the total number of deaths to be 412. Among the infectious and contagious diseases reported were: Measles, 6; diphtheria, 33; scarlet fever, 12; typhoid fever, 37; phthisis pulmonalis, 38; variola, 2.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

NOMINATION OF OFFICERS AND PLANS FOR THE SEMICENTENNIAL ANNIVERSARY CELEBRATION OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY—ELECTION OF OFFICERS OF THE PATHOLOGICAL SOCIETY—HOSPITAL NOTES—THE ELWYN INSTITUTION—OBITUARY—PERSONAL NOTES—A NOTED VISITOR—BOARD OF HEALTH NOTES AND HEALTH STATISTICS.

PHILADELPHIA, October 26, 1898.

AT a meeting of the Philadelphia County Medical Society held October 19th, the following officers were nominated and having no opposition will doubtless be elected at the next meeting: President, Dr. S. Solis-Cohen; first vice-president, Dr. John H. Musser; second vice-president, Dr. Shoemaker; secretary, Dr. John Lindsay; assistant secretary, Dr. Kirby; treasurer, Dr. Collier L. Bower; censor, Dr. Ash. Drs. Kirby, Bower, and Lindsay are nominated to succeed themselves.

The report of the Committee of Arrangements for the celebration of the semicentennial anniversary was read by Dr. William M. Welch, the chairman. On Saturday evening, January 14th, Dr. J. Chalmers DaCosta will deliver the oration at the College of Physicians, Sunday the 15th, Dr. K. B. Tupper will preach a sermon at the close of which a collection will be taken for the benefit of the Mutual Aid Society, and on Monday the Society will give a dinner at Horticultural Hall to which many prominent men will be invited. As the membership of the Society is now over 700, an unusually large attendance is expected.

Dr. Hughes, president of the Pathological Society, delivered the annual address October 13th. He reviewed the work of the year and complimented the Society upon its success, over one hundred communications with specimens having been presented during the past year. The following officers were elected: President, Dr. W. E. Hughes; vice-presidents, Drs. John Guiteras, F. A. Packard, Alfred Stengel, and Charles W. Burr; secretary, Dr. David Riesman; treasurer, Dr. Thompson S. Westcott; recorder, Dr. D. A. Taylor.

The Philadelphia Red-Cross Society has about completed the necessary alterations to its building at Twentieth and Cherry streets, which is to be opened as a hospital under the direction of Dr. C. P. Franklin, Dr. J. W. O'Neill, W. C. Allison, and a committee of women.

Negotiations were completed last week by which the Samaritan Hospital becomes the possessor of the dwelling next to it, 50 x 230 feet, which is to be added to the hospital as soon as alterations can be made.

The report of the treasurer of the Pennsylvania Training School for Feeble-minded Children at Elwyn shows expenditures of nearly $25,000 during the past year for new buildings and property. There are 890 patients in the institution at present, with room for over one hundred more of the "improvable" class.

Dr. Henry Landis died suddenly at his home in Reading, October 18th. He was formerly President of the Berks County Medical Society, and for many years on the staff of St. Joseph's Hospital.

Dr. Samuel Creadick, a graduate of the University of Pennsylvania, died last week, aged fifty-one. During the municipal campaign of 1896, although he had never before entered politics, the Republicans nominated him for common council to which office he was elected by a large majority.

William S. Leffman, Clerk to the Faculty of the Polyclinic, died October 13th. For a long period of years Mr. Leffman was Clerk at Jefferson Medical College, and many will hear of his death with great regret.

Major Joseph K. Weaver of Norristown succeeds Major Charles Jackson as Surgeon-in-Chief at the Second Division Hospital.

Dr. W. R. Nicholson, Jr., has been elected a member of the staff of the Maternity Hospital to fill the vacancy caused by the death of Major Lawrence S. Smith.

Dr. Clifford Allbutt, Regius Professor of Physic at Cambridge University, recently stopped in Philadelphia, on his way home from California and the East, long enough to deliver two very interesting lectures, the first, "The Pathology of the Circulatory System," at the University of Pennsylvania at the request of Drs. Tyson and Musser; the second, "The Therapeutics of the Circulatory System," at Jefferson Medical College, where he was introduced by Dr. S. Weir Mitchell, who in turn was introduced by Dr. H. A. Hare.

A resolution from the Board of Education was read at the last meeting of the Board of Health complaining that a large percentage of non-vaccinated children are admitted to the schools upon certificates signed without proper evidence. It was resolved to ask the Board of Education for specific cases where the law has been violated so that action may be taken as the law in this respect is very strict.

The total number of deaths occurring in Philadelphia, as reported at the Health Office for the week ending October 22nd, was 389, of which 122 were in children under 5 years of age. The total number of new cases of contagious disease for the week was 218, as follows:

Diphtheria, 104 cases, with 26 deaths; scarlet fever, 20 cases, with 4 deaths; typhoid fever, 94 cases, with 17 deaths.

TRANSACTIONS OF FOREIGN SOCIETIES.

Paris.

PHYSIOLOGICAL EDUCATION OF THE CHARACTER—MARSEILLES AS A SMALLPOX CENTER — TRANSPLANTATION OF LIVING BONE AS A SUPPORT FOR A DEPRESSED NOSE—PERIRECTAL ACTINOMYCOSIS —A CUTANEOUS PYOGENIC INFECTION.

At the Academy of Medicine, September 6th, Ferrand read an article on the "Physiological Education of the Character." He took the position that the character is no more than the *mode of action*, and showed that for the development of the character it is only necessary to excite action in the first place, and then so to organize it that the inferior centers of nervous activity shall remain subordinated to the superior centers until the natural control of these higher centers shall have an opportunity to become firmly established. The speaker added that it is necessary that the inhibitory action of the superior centers over the inferior ones should be an absolute authority, while over them all as a sovereign master should be the intelligent and free will.

Landouzy spoke of the importance of Marseilles as a center for the spread of smallpox. No longer ago than 1886 there were registered there 2400 deaths from this cause. He advocated the isolation of those persons attacked with smallpox, the disinfection of everything contaminated by them, and the vaccination or revaccination of everybody who could be suspected of having had communication with the invalid.

At the session of September 13th, Berger discussed the "Transplantation of Living Bones." Ricard recently reported a case of a young woman into whose back he had grafted a portion of the coccygeal bone of a dog in order to make good the loss occasioned by the removal of a sarcoma. The bone attached itself and was not absorbed, as was proved by palpation five years later. At that time the sarcoma had become general throughout the body, although there was no local recurrence. The experiences of Ollier, Adamkiewicz, and Mosse have shown that such heteroplastic bone grafts are almost always absorbed in whole or in part, but that a fibrous tissue takes their place, so that the desired effect is more or less accomplished after all. The subject is one suited for study with the Röntgen-rays, so that more evidence may be expected upon it. Ricard also reported the case of a woman in whom he had placed a metallic support for a saddle nose. The support caused ulceration of the skin, and had to be removed. The operator then divided the skin in the median line, separating it carefully from the underlying tissues for a considerable distance, and closed it over the fourth metatarsal bone of the patient, which had been removed for that purpose, and suitably shaped. The esthetic result was satisfactory, and the graft maintained its vitality. Nevertheless, in the course of time it lost its bony character, being replaced by a dense fibrous mass, which was sufficiently resisting to prevent the nose from sinking into its former position.

Berger said that metallic supports have been given up by most surgeons on account of their tendency to cause necrosis of the skin. The success obtained by Ricard was gratifying, but by no means a perfect cure since the nose was still short and more or less flattened. Israel had also obtained good results in bone transplantation for this deformity, but after a shorter or longer time the bones were partly or wholly absorbed, with the result that the flattening of the nose was in part reproduced. He agreed with Ricard that autoplastic osseous grafts are no better for this purpose than the bones of an animal.

Poncet narrated the case of a man aged fifty-eight years who had suffered for twenty years from a perineal suppuration complicated by vegetations and ischiorectal indurations, contraction of the sphincter ani, enlargement of the inguinal glands of the right side, etc. For three months he had had pain on micturition, and had passed bloody urine. He admitted when questioned that he had passed a head of wheat into his bladder about a month before the symptoms referable to that organ made their appearance. By means of a lithotrite a hundred fragments of calculus were extracted. The examination of the pus about the anus showed it to contain grains of actinomyces with the central mycelium. The classical treatment by iodid of potash, 4 grams daily, was begun and continued some days without much benefit. A linear proctotomy was, therefore, performed, and from this operation the patient obtained considerable relief in the passage of fecal matter. The granulations were curetted away as far as possible and cauterized. The repair of these lesions went on with great slowness. No more calculi were found in the bladder, but the prostatic urethra still contained phosphatic material. In short, it appeared that the perirectal and perivesical infections had not disappeared, although actinomycotic grains could no longer be found in feces or in the urine.

At the Session of October 4th, Hallopeau spoke of a "Cutaneous Pyogenic Infection" (impetigo herpetiforme d'Hebra). He had recently observed three such cases. The trouble is confined to the skin, and is marked by multiple suppurations of a superficial character, which progressing eccentrically may involve large surfaces of the skin and constantly recur when once healed. They are accompanied by a febrile reaction, which in some patients is intense. The first lesion noticed is a small blister surrounded by an erythematous border. These blisters are multiplied on the margin at the same time that a crust develops in the center. After the removal of the crust a rough and often bleeding surface remains. The lesions are frequently confluent. If the trouble is found upon the limbs it is usually bilateral. The knees are a favorite seat on account of the folds of skin. Besides the skin the mucous membrane of the cheek may become involved, as may also the vagina. The disease may last for months and often terminates in death. It is impossible to say if it is due to the action of modified staphylococci or to some as yet unknown pyogenic microbe. This pyogenic cutaneous infection is distin-

guished from the common pyogenic infection by the absence of infarcts in the viscera, by its duration, which may be very long, and by the possibility of a recovery from it.

SOCIETY PROCEEDINGS.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Abstract of the Proceedings of the Twenty-fourth Annual Meeting, Held at Nashville, Tenn., October 11, 12, 13, and 14, 1898.

(Continued from page 544.)

SECOND DAY—MORNING SESSION.

DR. THOMAS CHARLES MARTIN of Cleveland, Ohio, read a paper, entitled

COMPLETE INSPECTION OF THE RECTUM BY MEANS OF NEWER MECHANICAL CONTRIVANCES.

The newer mechanical means exhibited consisted of a set of proctoscopes which are provided with obturators of peculiar form, of an illumination apparatus susceptible of adjustment to a number of positions, and of an improvement on the Yale chair which facilitates the placing of the patient in the knee-chest posture without requiring any movement on the part of the patient after he is properly seated on the chair. The improvement consists essentially of an upholstered board attached to the left arm of the chair, and a mechanism controlled by a crank and lever, which form a part of the running gear. The anoscope exhibited is an inch and a half (1.27 cm.) in length, and is designed for the inspection of that part of the rectum which is surrounded by the pelvic floor. The proctoscope is four inches (10.16 cm.) long, which the essayist claims is of sufficient length to reach into the inflatable rectum, and is not of so great a length as to obstruct a complete view of the rectal chambers, and yet is of sufficient length to reach the promontory of the sacrum when the pelvic floor is displaced upward by the proctologist's manipulations. Both of these instruments are seven-eighths of an inch (2.22 cm.) in diameter. this diameter having been determined upon as the result of calibration in many normal ani. The average diameter of the instrument is equal to the degree of painless expansibility of the anus. The obturators have contracted necks which constitute these instruments ointment-applicators. The middle part of the obturator is channeled; this qualifies the instrument as a nozzle for rectal irrigation; because of its contracted neck the obturator may be used as a self-retaining nozzle. The surface of each obturator is fluted in such a manner that it may be used as a two-way irrigator when properly fixed within its tube. The technic of the inspection is as follows: The patient is required to sit on the chair with his legs crossed and his body facing the knee-board, which is attached to the left arm of the chair. The chair-back is changed to the horizontal by a movement which puts the patient into the Sims posture. The fixed rectum is now examined by means of a short anoscope. After this portion of the rectum is inspected the chair's lever is extended, its crank turned, and the chair tilted to such an extreme degree of the oblique lateral position that the chair-seat is almost perpendicular and the knee-piece, which is a part of the left arm of the chair and against which the patient's knees are pressing, is almost horizontal. Now, at a time when the patient is resting easily in a position which is equivalent to the knee-chest posture, the anoscope is introduced, the obturator withdrawn, and the inspection of the ballooned gut completed. The patient is passively returned to his feet by executing in the reverse order the several steps of this procedure.

THE RELATION BETWEEN THE GENITO-URINARY TRACT AND RECTUM; IN OPERATIONS UPON THE FEMALE, WHICH SHOULD RECEIVE PRIORITY?

This paper was read by DR. JOHN L. JELKS of Memphis. The author champions the assertion that the gynecologist should be as well prepared to remove hemorrhoids and treat an ulcerated rectum as to dissect a cicatrix from the cervix or repair a perineum. The rectal surgeon often finds that although the rectum is involved to such an extent as to be chiefly complained of the chief source of danger to the patient is a pus-tube or some other disease. In other words, to relieve the patient and restore her to health and happiness, he must also dissect from the cervix uteri a cicatrix and repair a lacerated perineum. In another case he may be required to sever a urethral stricture.

DR. WILLIAM B. BRUNS of Deckerville, Ark., read a paper, entitled

RECTAL FISTULA IN THE CAUSATION OF ISCHIORECTAL ABSCESS,

in which he reported a case with two large pus-pockets. He opened the abscess, emptied its cavity, and subsequently did an operation for the removal of the fistula.

DR. GEORGE D. KAHLO of Indianapolis followed with a contribution on

HYDROTHERAPY IN STOMACH DISEASES.

He said that water is essential to the performance of all physiological functions; yet its importance as a remedial agent is not so generally recognized. While he does not wish to be understood as opposing entirely the use of drugs in diseases of the stomach, he desired to say that he believes water ranks first among therapeutical resources. It may be used internally as a drink, in lavage, as a douche, and as a spray, and externally either applied locally or generally. Its effects, when administered internally, depend upon the conditions of the stomach in respect both to taking of food and whether or not there is normal digestion, as also upon the amount and temperature of the water ingested. Cold applications of all kinds are antiphlogistic, and when prolonged are sedative. They are indicated in acute gastritis and in the control of vomiting and hematemesis, but to obtain their full effect it is necessary that their local condition produce an active hyperemia of the skin. Hot applications are useful in the treatment of gastralgia, hyperesthesia, gastric ulcer, and chronic gastritis. While he does not ignore the beneficial influence of such agencies as diet, exercise, massage, and electricity, not to speak of a few of the more

important drugs which are thus used, and in obstinate cases especially, physicians are not likely to rely wholly upon any one remedy, however valuable. To be successful, hydrotherapy, like all other forms of treatment, has for its governing factors an exact diagnosis, a thorough knowledge of the patient, a full understanding of the causative influence and a clear conception of the effects of the remedial agent. To this must be added the confidence and cooperation of the patient.

Afternoon Session.

Dr. Thomas Hunt Stucky of Louisville read a paper on

Auto-intoxication of intestinal origin.

Dr. Edwin F. Wilson of Columbus, Ohio, read a

Clinical report of a case of abscess of the liver.

In referring to the clinical aspects of abscess of the liver, he called attention to the essentials in diagnosis, and dwelt upon the history of the disease. He reported three cases. Of these the diagnosis was confirmed in two by post-mortem; in the other by aspiration. In all three the abscesses were chronic when they came under his observation. In only one of the cases was there a history of dysentery, although in one case scars of healed ulcers were found in the large intestine. In these cases he finds the enlargement of the liver is upward. Hoover has made a diagnosis of abscess of the liver from a friction sound in the axillary line between the eighth and tenth ribs. The essayist has not heard this sound in any of his cases, but this should be borne in mind when making an examination in this region. Two of the cases reported were mistaken for malaria. This mistake can be avoided by the more general use of blood examinations. The absence of the plasmodium would settle this at once.

Dr. J. C. Morfit of St. Louis, Mo., read a paper on

The importance of early diagnosis in surgical cases.

The diagnosis of a disease ought to be the most attractive feature in the practice of medicine or surgery. It is the foundation on which any plan of treatment is applied. The physician should promptly and exhaustively weigh every indication of cause and effect and apply his therapy accordingly. He has recently seen two cases of pyosalpinx which were cured by surgical interference. Both had been treated by good practitioners, yet neither had made a complete physical examination, and consequently the real trouble was not detected. One patient was treated for indefinite inflammation of the bowels, the other for malaria. He cited these cases to emphasize the duty of the physician to himself and his patients of utilizing every available means to arrive at an early and positive decision as to what he is treating.

Gonangiectomy and orchidectomy for hypertrophied prostate in the aged.

An excellent paper on this subject was read by Dr. George W. Johnson of Dunning, Ill., in which he reported five cases, and made a second report on twenty-eight cases previously recorded.

After referring at length to the literature of the subject and reporting his cases in detail, Dr. Johnson arrived at the following conclusions: (1) All cases of prostatic hypertrophy should be given at least two weeks of palliative treatment, with rest in bed. This treatment should be regulated according to the conditions. (2) If no relief is had from this line of treatment, a thorough and systematic examination should be made for vesical calculi and polypi, as well as structural and malignant disease of the prostate and bladder. Cystitis, acute prostatitis, and prostatic abscess, should always be borne in mind. The urine should be frequently examined. In cases of cystitis the ureters should be catheterized to determine the condition of the kidneys. This can now be easily done by the Harris instrument. If by digital examination per rectum the prostate is found to be enlarged its approximate dimensions should be noted and urethral measurements taken. The patient should then be as well prepared as possible for operation. Having decided upon operative interference, the operator alone must decide upon what operation he will do. Gonangiectomy or orchidectomy offers less risk to life. (3) Chloroform should be used, as it requires less time and is not so irritating to the kidneys. The operation should consume as little time as possible. Gonangiectomy or orchidectomy can be done quicker and with less shock than any other operation. Strict attention should be given to the after-treatment. (4) The time for relief after operation is irregular. In his experience the relief has not been as clearly defined as to hours and days, nor as immediate as in most cases reported. In but two cases has the catheter been required after operation. Enuresis was constantly present in his cases for from one to six weeks after operation. (5) More immediate relief is given to cases of orchidectomy, and the prostate softens and diminishes more rapidly in such cases than where gonangiectomy is done. (6) The kidneys should be carefully watched and supported after operation. Mental symptoms appeared in three of his cases, two of which were due to renal disease. (7) Long-standing and troublesome herniæ can be successfully treated in the aged. He has successfully treated eighty-four such cases, in none of which has a recurrence taken place up this time. Of this number he has encountered the condition of congenital with acquired hernia in six cases. In five of the cases the acquired sac was outside of the congenital one. In one case it was within it. (8) Bassini's operation was resorted to in all but five cases, and in these Fowler's method was used. (9) Cystic degeneration of the testicles was met with in twenty-five cases. These usually had chronic hydrocele also, and were always cases with hernia of long duration. (10) When the intestines occupied the scrotum in large mass, they were returned to the abdominal cavity three or four days before the operation. In many cases there were adhesions preventing reduction. (11) Examinations were always made for vesical calculus, but none found. (12) The somatic condition is greatly improved, and when bilateral orchi-

dectomy was done, the patients became obese. (13) A thorough line of palliative treatment of from two to six-weeks' duration, with rest in bed, was given each patient. (14) In cases of herniotomy the patient was kept in bed from three to five weeks, unless very asthenic, with the hope of getting better organic union and thereby minimizing liability to recurrence.

THIRD DAY—MORNING SESSION.

DR. GEORGE BEN JOHNSTON of Richmond, Virginia, delivered the address on surgery.

His subject was

THE PROGRESS OF RENAL SURGERY.

Renal surgery is altogether a matter of the past three decades, having had its commencement with the successful nephrectomy performed by Simon in 1869. Dr. Johnston dealt with nephrotomy, floating and movable kidney, renal and ureteral calculi, neoplasms of the kidney, tuberculosis of the kidney, when not a part of a general miliary tuberculosis, which he said may either have its origin in the kidney, or may be an ascending affection from the bladder. Hydronephrosis also received attention. He made no attempt to arrive with anything approaching completeness at the progress or present status of surgery of the kidney. He endeavored merely to point out some of the advances which have been made in this field of surgery, and to indicate the present views of surgeons upon some of the most important points. Especially did he emphasize the conservatism which has developed along this line, and which now marks the attitude of the surgeon in this as in other branches — a conservatism which realizes that the glory of surgery is not in amputation and in mutilation, but in saving important organs.

WHY I PERFORM VAGINAL ABLATION IN PELVIC INFLAMMATORY CASES.

By DR. WILLIAM R. PRYOR of New York City. He stated why, when he performs hysterectomy in pus cases, he prefers the vaginal route. He dealt with the subject under the respective heads: Incision; separation of adhesions; direction of effort in the enucleation; hemostasis; drainage; hernia; accidents; instruments; narcosis and time; convalescence, and results.

Up to October 1st, of this year he has performed vaginal hysterectomy for pelvic inflammatory lesions, exclusive of fibroids and cancer, eighty times. Since that time he has performed the operation a number of times. No patient has died either from the operation or from complications. He has no fecal fistulæ to report, no sinuses, no vesicovaginal fistulæ, and no hernias. There have been no cases of phlebitis and no intestinal obstructions. The vagina has in no case been shortened. For the technic of the operation he refers the reader to the *American Journal of Obstetrics*, volume xxxviii, No. 6, 1898.

A CONSIDERATION OF THE LIMIT TO OPERATIVE GYNECOLOGY.

By DR. SHELBY C. CARSON of Greensboro, Ala. The purpose of this paper was to emphasize the importance of medical gynecology; to show that surgery cannot advance a legitimate claim to even the larger portion of this great field. A beautiful tribute was paid to this branch of medicine by applying to it the eloquent eulogy of Daniel Webster upon justice. Surgery as a science is pronounced as practically without limit, but as an art it has probably reached the summit. What constitutes true surgery was then discussed, the author quoting not only from text-books, but from the latest utterances of such men as Wyeth and Annandale, proving that surgery, of all branches, is based upon principles, and hedged in by fixed laws; that when these are disregarded there is no true surgery. The folly of the ablation of the ovaries and tubes in many cases was made manifest. The nerve element in women was closely considered, the anatomical connection between the nervous system and the genitalia being defined. As a consequence, neurasthenia is a frequent result, for which surgery affords no relief.

THE THERAPEUTIC VALUE OF LEAVING LARGE QUANTITIES OF NORMAL SALT SOLUTION IN THE ABDOMEN.

The author of this paper was DR. J. WESLEY BOVEE of Washington, D. C. He reported six cases to illustrate the usefulness of this procedure. In a number of cases the effect was not so marked, and in a few but little benefit was apparent. The first case was one of papillomatous broad ligament cyst; fifteen liters of normal salt solution left in abdomen; marked increase in urine. Case II. Large multiple uterine fibroma, and large ventral hernia; secondary operation; three liters normal salt solution in abdominal cavity, and one liter under breast, with marked urinary increase. Case III. Papillomatous fibro-adeno-cystoma of right broad ligament; eight liters normal salt solution left in abdomen; considerable urinary increase. Case IV. Multilocular ovarian cyst; 5000 c.c. normal salt solution left in abdomen; increased excretion of urine. Case V. Multiple fibroma of the uterus and pelvic adhesions; great shock; two liters of normal salt solution left in abdomen; increased urinary excretion. Case VI. Multilocular cartilagino-cystoma of left ovary; seven liters normal salt solution left in abdomen; excretion nearly doubled during the following six days.

The marked stimulating effect of the remedy on the kidneys was noticeable in all these cases. Penrose has found that the average amount of urine excreted during the first twenty-four hours after operation in 100 cases was 13.4 ounces; for the second, 14.6 ounces, and for the third, 19.8 ounces. He also found that for the first day the maximum amount of urine was 27 ounces. In many of the cases of the essayist this maximum was much more than doubled. While the number of cases in which he has used these large quantities of normal salt solution is small, the effect should encourage a further application of the remedy in proper cases. Not one evil result of the solution was observed in any of the cases.

DR. F. F. BRYAN of Georgetown, Ky., read a paper, entitled

A PLEA FOR PELVIC CELLULITIS AND PERITONITIS.

He reported twenty cases and drew the following conclusions: (1) Cellulitis and peritonitis are important manifestations leading to the greatest amount of suffering

that woman is heir to. (2) Their recognition and the retention of their nomenclature should keep physicians constantly on the watch for them. (3) Their proper treatment in the early stages will obviate these latter evils to a great extent, as cellulitis and peritonitis are easily curable in the early acute stages. (4) That should opportunity for an early cure not be offered, then the chronic cases should have the medical and minor gynecological treatment mentioned by him, under which many will be cured, others obtain relief, and a respectable quota will of necessity have to turn to surgery for their cure.

Afternoon Session.

SURGICAL TREATMENT OF PARALYSIS IN CHILDREN.

Dr. Alex. C. Wiener of Chicago read this paper. A clear distinction should be made in diagnosis as well as treatment between cerebral and spinal paralysis. A common symptom in both diseases is paralysis, and yet there is a great difference between the two affections. In spastic paralysis one group of muscles becomes rigid and overpowers its opponents, rendering them overstretched and useless, but still their innervation is by no means disturbed. In spinal paralysis there is a true degeneration of the lower neuron and the dependent muscular groups. This being borne in mind, the treatment is to equalize the balance between the spastic and the overstretched muscular group by lengthening the rigid muscles. This is done either by tenotomy, resection of tendons, or loosening the attachments of the muscles from the bone as is done in a spastic condition of the adductor muscles of the pelvis. The after-treatment consists mainly in not allowing the extremity to leave its over-corrected position too soon, and in strengthening the functionally weakened opponents by massage, baths, and electricity. Apparatus in these cases is utterly useless and should be entirely discarded. Any other peripheral cause of reflex irritation, as phimosis, occlusion of the prepuce, or of the clitoris, of course is to be removed. In anterior poliomyelitis we have to deal with a true paralysis of certain muscular groups. This may be overcome by apparatus which supplants the paralyzed muscles, or by operative procedures. This consists in dividing the belly of an active muscle up to the place of its insertion and sewing the corresponding part of the tendon into the cleft of the tendon which belongs to the paralyzed muscle. The inactive muscle is supplied with the vigor of the innervated muscle, taking care, as Milliken has pointed out, that the sheath of the tendon is preserved. By this artificial change in the arrangement of muscles the function of one muscle is transmitted to another. There is taking place an alteration of the reflex activity in the nerve-centers of the muscles; hence, the importance of the function of the extremity is by no means a mere mechanical act.

THE DIAGNOSIS OF GONORRHEA IN WOMEN.

By Joseph Rilus Eastman of Indianapolis. The diagnosis of this affection in women is comparatively easy, even without the microscope. With a history of impure coitus, free purulent secretion from the vulva, vagina, and urethra; intertrigo, burning on micturition, and vesical tenesmus, the diagnosis is not far to seek. Upon inspection one usually detects a discharge of tenacious pus, or greenish or yellowish streaks upon the linen may alone be in evidence. The symptoms of gonorrhea in women were dwelt upon at great length.

The gonococcus grows fat upon flat epithelium. A comprehensive examination of the discharge is not complete until the secretions of the urethra, Skene's lacunæ, the glands of Bartholin, the vagina and cervix have been searched through; and in chronic cases several preparations should be made from each of these. To secure unmixed gonorrheal pus from the cervix uteri care should be taken that the platinum wire does not come in contact with the vagina. It is best to first rinse and then dry the vagina with cotton to free it from mucus.

It will be concluded after many examinations for gonococci that the urethra is the seat of predilection of gonorrhea in women, and that the vulvitis and vaginitis are secondary, being caused by the bathing of these parts with the discharge from the urethra and cervix. The diagnosis of acute gonorrhea may be made by contemplation of the clinical phenomena alone. For example, if acute urethritis be present, it is almost certain that the gonococcus is to blame. Observation for a few days will establish the diagnosis beyond conjecture, since the symptoms of non-specific urethritis will disappear rapidly. In chronic gonorrhea too much dependence upon clinical manifestations is hazardous. Condylomata are often present, but appear also often independently of gonorrhea. Débris-laden discharge from the vulvovaginal glands is usually an expression of old gonorrhea, but other germs, as the staphylococcus aureus and saprophytic forms may occasion just such discharge. Among the more common indications of chronic gonorrhea are the maculæ gonorrhoicæ of Sanger, red papules about the openings of the vulvovaginal glands, sclerotic inflammation of these glands, in which the glands are felt as hard, non-sensitive nodules under the examining finger, cysts of these glands, and scars and erosions in the vulva. All of these conditions may be caused by other germs than gonococci. Here, as in acute gonorrhea, the most reliable indication is the urethritis.

POSTERIOR DISPLACEMENTS OF THE UTERUS.

Dr. A. M. Cartledge of Louisville read this paper, in which he dealt with the subject from a clinical standpoint. He discussed the causes, symptoms, and diagnosis of these displacements.

Treatment should be divided into measures which correct the cause and methods of support by suturing and shortening the round ligaments. Sometimes it is necessary to employ both methods in the same individual in order to make the result durable. In the first category are to be included thorough curettage; repair of cervical lacerations, if present; perineorrhaphy and restoration of the pelvic floor; tonics, laxatives, and rest. These methods, if carried out successfully, will ultimately relieve the vast majority of posterior displacements. They are not so dramatic or sudden in their relief as ventrofixation and Alexander's operation, but are more in accord with ra-

tional ideas. In order to succeed they require time—six to eight months for the structures to resume their normal tone. They also usually require to be supplemented during some weeks or months following their performance by anterior and posterior tamponade, or a well-fitting pessary to hold the uterus in position until the repaired parts regain their strength. It is irrational surgery to use any form of support until existing causes have been as far as possible removed.

As between ventrofixation, vaginofixation, and Alexander's operation, preference should be given the latter, if no accompanying disease is suspected. Where such disease exists, the operation of ventrofixation should be practised, as it gives opportunity for inspection and correction of the pelvic disease. It is the best operation in all cases of adherent uteri.

Dr. A. H. Cordier of Kansas City, Missouri, followed with a paper, entitled

SOME PHASES OF INTESTINAL OBSTRUCTION.

The causes of this condition are many and varied. Modern methods of diagnosis in skilled hands have led to the saving of many lives, which, heretofore, would have been lost by delay in resorting to the proper treatment. While the diagnosis of intestinal obstruction can usually be made early, there are some cases in which the pathological manifestations are so insidious or vague that their detection requires time and much careful clinical analysis. The symptoms of intestinal obstruction were thoroughly outlined. He said the falsehoods uttered by pain and the truths untold by opium have been very expensive to human life in the management of intestinal obstruction.

Surgical treatment for the relief of this condition should be resorted to early. It should be thorough and quick. No protracted delays or chronic surgery should enter into the management of an acute intestinal strangulation, as these patients stand prolonged anesthesia and slow surgery badly.

Dr. F. F. Lawrence of Columbus, Ohio, followed with a contribution, entitled

ESSENTIALS TO SUCCESS IN ABDOMINAL SURGERY.

Dr. Bayard Holmes of Chicago read a very interesting paper, entitled

THE SURGICAL TREATMENT OF EXOPHTHALMIC GOITER.

He said the surgical treatment is based on the theory that in this disease the direct morbid factor is an increase in the normal excretion of the thyroid gland. He gave a synopsis of the physiology and pathology, and an outline of the embryology of the thyroid, after which he reported a case upon which he had operated, which was a very powerful argument in favor of surgery in dealing with this affection.

SOME FORMS OF GANGRENE AND THEIR TREATMENT.

By Dr. J. S. Nowlin of Shelbyville, Tenn. Gangrene means death of a part, and is applied to the soft tissues. The blood is always involved in this disease. If the blood is performing its functions there can be no local death. The blood-channels being destroyed, gangrene necessarily follows. Gangrene appears sometimes suddenly after injuries to the spinal cord. A normal functional activity in the blood prevents the first step in the process of inflammation. Simple endarteritis may be the cause of gangrene; an inflamed artery is then surcharged with blood, stasis results, coagulation takes place, the lumen is destroyed to a certain extent, and gangrene results. Sepsis is doubtless a most frequent cause of gangrene in the extremities. In traumatic gangrene the surgeon should look out for sepsis. If there be a simple endarteritis with tissue formation amputation should be performed at the first evidence of failing vitality.

Fourth Day—Morning Session.

Dr. A. M. Osness of Dayton, Ohio, contributed a paper on

DIPHTHERIA AND ITS LOCAL TREATMENT.

He said the pathological process in diphtheria is caused by the serum albumin at the point of infection becoming moderated from incorporation with the specific virus. It is then repudiated by the blood-stream and exudes into the neighboring tissues, where it, plus necrotic cells and fibrin, forms the pseudo-membrane, that is, a congenial nidus for the Klebs-Loeffler bacillus. The intoxication of the system depends upon the energy of the lymphatics upon which devolves the removal of the exudate. In the treatment the use of antitoxin serum offers the risk of over-toxicity, from additional toxin or systemic impairment from invalidation of the centers; while monosulphid of calcium has been given in ¼-grain doses every half hour for a period of thirty-six hours to children with the best of results. Water should be taken internally quite freely to help elimination of the toxin, local swabbing being resorted to as well, with a mixture such as the physician deems necessary.

Dr. William K. Jaques of Chicago followed with an excellent contribution on

THE EARLY DIAGNOSIS OF DIPHTHERIA.

He said that outside of laryngeal complications the mortality from diphtheria is due to the toxin produced by the Klebs-Loeffler bacilli. No physician can successfully treat diphtheria unless he understands the nature of this toxin, how it is produced, and how the cells may be fortified against its destructive action. He must understand that the Klebs-Loeffler bacillus is a distinct living entity, or vegetable organism; that one of the products of its existence is diphtheria toxin, just as the result of the life of the yeast plant is alcohol. To appreciate the danger of his patient a physician must understand the rapidity with which these bacilli multiply under favorable conditions. The clinical symptoms manifesting their residence may give no indication as to the rapidity with which the fatal amount of toxin is being produced. Understanding that toxin is a product of these germs, their multiplication means an increased amount of toxin which soon reaches the fatal point unless checked by the use of antitoxin. This demonstrates the importance of a physician knowing

at the earliest possible moment what germs are present in an angina.

In order to ascertain the value of direct diagnosis, by which is meant the examination of material taken directly from the infected area without waiting for incubation, the Chicago Health Department has introduced the following culture outfit for the use of physicians: A sterilized swab is placed in a glass tube; a slide carefully wrapped in paper is placed with this in an envelope together with a culture-box and directions for using the same. Physicians are requested to inoculate the swab from the inflamed site, spread a little of the mucus upon the slide and allow it to dry. The culture medium is inoculated from the same swab and it is returned to the glass tube. The whole outfit is then to be sent to the nearest incubator station or laboratory.

When no antiseptic treatment has been administered before the culture is taken, and the disease manifests malignancy by stupor, hoarseness, or swelling of the cervical glands, it has been possible in about fifty per cent. of the cases to find sufficient bacilli to warrant a diagnosis of diphtheria even before any trace of membrane is visible. When it has been possible to get a small portion of membrane to spread on the slide, there has been no difficulty whatever in about seventy-five per cent. of the cases in making a direct diagnosis.

In the malignant form of diphtheria nearly fifty per cent. of the patients die unless proper treatment is administered. Any physician who neglects to make a correct diagnosis during the time when the remedy is efficacious, that is, during the first two or three days, is responsible for the result.

The technic of bacterial diagnosis of diphtheria is simple. The entire outfit for this work may be obtained for less than $100. The essentials may be acquired at home by any physician who is willing to devote no more than his leisure moments to it.

To demonstrate the protective value of antitoxin the following experiment has been conducted: On October 10th, in the presence of Dr. F. W. Reilly, Assistant Health Commissioner of Chicago; Dr. Wynekoop, Assistant Bacteriologist, the essayist, and Dr. Adolph Gehrmann, nine guinea-pigs were injected with four times fatal doses of diphtheria toxin. The first three were immunized two days previously by the injection of 0.1 c. c. each of Parke, Davis & Co.'s antitoxin. The next three received 0.5 c. c. of the same antitoxin each, following the injection of toxin. The third three have had no treatment whatever since the injection of the toxin. The pigs were correctly labeled as to condition, and presented decided effects upon the fourth day. All pigs that received antitoxin are alive and apparently well. Of the three not protected two are dead. The third being still alive, would indicate the possession of natural immunity against the toxin.

Dr. H. W. Whittaker of Columbus, Ohio read a paper on

PICHI.

In Chili, South America, pichi is found growing as a shrub in abundance. No doubt the active principle of the drug resides in the balsamic resin, but chemical examinations have so far been unsatisfactory in determining its chemical composition.

The annoying symptoms of chronic cystitis with enlarged prostate yield to the action of pichi, as was illustrated by the citation of a case. Cystitis complicating specific urethral infection, involving the prostatic urethra, is a combination which under favorable circumstances does not readily respond to treatment, and yet under the influence of this drug the conditions become more tolerable. This remedy is indicated in all of the various forms of diseases of the liver. In gall-stones pichi has proven a valuable remedy in assisting the secretion of bile and theoretically aiding the discharge of the stones. Uric-acid formations rapidly disappear from the urine under the corrective influence of this remedy and the general condition of the patient improves.

Dr. J. Henry Carstens of Detroit reported a case of rupture of the body of the uterus during confinement.

A FEW PRACTICAL POINTS IN THE TREATMENT OF POSTERIOR URETHRITIS.

This paper was read by Dr. A. Ravogli of Cincinnati, Ohio. The author recapitulated the principles of the treatment for this disease as (1) irrigations by the Janet method in a recent case of gonorrhea will in many cases prevent posterior urethritis. (2) Irrigation with the recurrent catheter with permanganate of potassium, followed by injections of protargol, will cure in a relatively short time a case of subacute posterior urethritis without complications. (3) When chronic posterior urethritis lasts for a long time, and has caused infiltration of the submucous tissues, then the application of a sound with ichthyol salve gives the best results.

Dr. F. E. Kelly of Lamoille, Ill., read a paper on

VARICOCELE.

The author outlined the operation for radical cure and the indications for its performance. He considers Bennett's operation of resection of the veins and shortening of the spermatic cord the ideal radical procedure, which he described in detail.

Dr. R. A. Bate of Louisville read a paper, entitled

THE ARTHRITIC DIATHESIS.

The term diathesis is applied to an inherited predisposition to altered nutrition. He assumed in diathesis an inability on the part of the cells to produce oxidation. He mentioned the diseases generally conceded to be dependent upon the arthritic diathesis. He has experienced favorable results from antilithemic remedies in glycosuria, nasal and bronchial asthma, lithiasis, albuminuria, obesity, eczema, paresis, rheumatism, angina pectoris, recurrent typhlitis, vertigo, biliousness, dyspepsia, neuralgia, and migraine.

Dr. Albert E. Sterne of Indianapolis contributed a paper, entitled

A TRIOLOGY OF DISEASES: ACUTE ARTICULAR RHEUMATISM, ENDOCARDITIS, AND CHOREA.

He advanced considerations concerning the nature of these three affections and of the connection of chorea with

manifestly infectious disease, namely, acute articular rheumatism. A case was reported in point. While he could report several instances of chorea associated with both arthritis and heart lesions, this is the only case known to him where the sequence of this triology seemed distinctly connected with a suppurating injury, following a fairly incontestable portal to the invasion of the ordinary pus-microbes to the system. If it be admitted that valvular disease is mainly rheumatic, or at least infectious in character, then the list of cases of chorea connected with the diathesis becomes much greater, inasmuch as from twenty-five to fifty per cent. (Osler) of cardiac patients give a history of chorea. Looking at the question impartially, it seems almost imperative to assume an intimate relationship between the three diseases.

The following preamble and resolutions were offered and unanimously adopted:

WHEREAS, The general public, the medical profession, and the drug trade of the United States have long suffered extortion at the hands of foreign manufacturers of synthetic remedies, and

WHEREAS, Our lax and indulgent patent laws bestow a triple monopoly upon the process, the composition and the name of chemical products for medicinal use, thus excluding every possibility of a healthy competition; and

WHEREAS, The same evil has been recently disclosed in the domain of biological medicine by the patent granted Professor Emil Behring and the Hoechst Farbwerke on antidiphtheritic serum, a patent which could not be obtained in Germany, France, England, or Canada; therefore,

Be It Resolved, by the Mississippi Valley Medical Association, that the seal of its condemnation be placed upon the unethical and unprofessional conduct of Professor Behring; that it is the duty of every member to renounce the use of the Behring serum; and that the American manufacturers who purpose contesting the patent in the courts are entitled to the moral and substantial support of every American practitioner.

Resolved, That an earnest appeal be made to the members of the Commission on the revision of our patent and trademark laws, appointed by President McKinley, and their assistance invoked for the modification of existing laws and the suppression of prevailing abuses.

Resolved, That a copy of these resolutions be sent to every medical journal in the United States and to the members of said Commission, as follows: Hon. Arthur P. Greely, Assistant Commissioner of Patents, Washington, D. C.; Hon. Peter Grosscup, Chicago, and Mr. Francis Forbes, New York city.

Resolved, That the members of this Society be urged to write their Congressional representatives at Washington and bespeak their support of any measures of relief ultimately proposed by the Commission.

The following officers were elected for the ensuing year: President, Dr. Duncan Eve, Nashville; first vice-president, Dr. A. J. Ochsner, Chicago; second vice-president, Dr. J. C. Morfit, St. Louis; secretary, Dr. Henry E. Tuley, Louisville, re-elected; treasurer, Dr. Dudley S. Reynolds, Louisville, re-elected. Chicago was selected as the place for holding the next meeting, the time of which is to be fixed by the Committee of Arrangements and the executive officers.

NEW YORK STATE MEDICAL ASSOCIATION.

Fifteenth Annual Meeting. Held in Mott Memorial Hall, New York City, October 18, 19, and 20, 1898.

FIRST DAY—MORNING SESSION.

THE meeting was called to order by the President, DR. DOUGLAS AYRES of Montgomery County. An address of welcome was delivered by DR. FREDERICK HOLME WIGGIN of New York, Chairman of the Committee of Arrangements. The treasurer's report, read by the secretary, DR. E. D. FERGUSON of Rensselaer County, showed a balance in the hands of the treasurer of $4895.75. Despite the fact that $2000 was contributed to the Rush Monument Fund during the present year, the amount on hand is only $1622 less than it was last year.

DR. WIGGIN then reported the result of the effort of the committee appointed at the last meeting to secure proper legislation for the regulation of dispensaries and the prevention of the abuse of medical charities. He detailed the differences between the bill introduced into the Legislature in 1898 and the Sullivan bill that had been vetoed by the Governor in 1897. He recounted how, though the Senate had passed the bill thus modified with but two dissenting votes, it had been killed in the Assembly committee despite the strenuous efforts of the united committees of the various medical societies, and suggested the appointment of a new committee to carry on the work, which practically every one is agreed is so absolutely necessary. He insisted that there is no effort being made to curtail medical charities, but on the contrary, the intention is to increase true charity and make it possible to aid more efficiently the worthy objects of such charity by eliminating from the number of those applying for free medical relief all those found on investigation to be undeserving of it.

To the question as to what arguments had been brought forward that had prevented the passage of the bill through the Assembly committee, Dr. Wiggin replied that there had been practically none, and certainly none that had been deemed of any weight by the Senate committee, though the same set of arguments opposing the bill were presented to both committees.

DR. WICKES WASHBURN of New York begged to supplement Dr. Wiggin's statement to this extent: "Members of the Senate committee had stated that if the committee in opposition to the bill had no further arguments to present than those they brought before them their presence was calculated to hurt rather than help their cause."

DR. DOUGLAS AYRES then read the President's Address,

A RESUME OF MEDICAL AND SURGICAL PROGRESS.

He detailed the striking advances that have been made in all departments of medical science during this last half century, and dwelt upon the fact that the surest and easiest way to keep abreast of medical progress is to be thor-

oughly interested in the proceedings of medical societies, actively as a contributor, passively as an interested attendant at their sessions, and hoped that the present meeting of the New York State Medical Association would fulfil the promise of its predecessors and the hopes of interested members.

Dr. J. G. Hunt of Oneida County read the first paper on the program, entitled

CONSERVATIVE SURGERY IN CRUSHING INJURIES.

He considers that the striking advance in modern surgery since the introduction of antisepsis has been in the line of even greater conservatism in the treatment of injured limbs. He thinks that the limits of this conservatism have not been reached and that limbs are sometimes sacrificed even yet that might be saved. He illustrated by a case and by statistics from his practice among railroad employees, and mill and factory hands, that conservatism must be the keynote of modern surgical practice in the treatment of the injuries of this class of people even as regards the smallest member.

Dr. Overton of Suffolk County read a paper on

THE TEACHING OF PHYSIOLOGY AND HYGIENE IN THE PUBLIC SCHOOLS.

He considers that our best hope that the people will sooner or later have some standard by which to distinguish the mere money-making quack from the serious physician, is founded in a practical knowledge of the elementary principles of physiology and hygiene to be obtained at our public schools. How important this matter is for the people may be gathered from the extent to which the advertised remedies and the advertising quacks have invaded all advertising media. The present teaching does something toward securing a practical knowledge of physiology and hygiene, the only one that can do any good, but falls far short of what might be accomplished. There is danger of the pupils merely learning a series of thoroughly misunderstood scientific terms rather than acquiring any practical scientific knowledge. It is unfortunate, too, that so much weight is laid by existing laws upon the teaching of the effects of but one form of abuse upon the organism. There is, perhaps, some compensatory advantage in the fact that a well-grounded knowledge of one form of abuse will more easily lead on reflection to a realization of the results of other abuses also.

A practical knowledge of physiology could be best imparted by a series of simple experiments on animals, cold-blooded ones as the frog, for instance, being preferably employed. Simple demonstrations of such things as the circulation could be easily made this way in a manner that would never be forgotten. The compound microscopes, one of which every school is bound by law to have, should be brought into use, and the facts and principles of cellular life, the important groundwork of all physiology, made the subject of actual demonstration.

Dr. Delancey Rochester of Erie County, in the discussion said he thought that something of the significance of venereal diseases should be taught at least to older pupils just before leaving school. The ignorance on this subject, fostered by a prudish prejudice in the matter, is the source of a great deal of physical evil to young people just entering life. Knowledge of these subjects instead of adding to pruriency would form an additional safeguard to morals and the best possible adjuvant factor for protection in temptation. The significance of venereal disease is known to be very different now to what it had been in the past, and it is too bad that this knowledge is not more widespread.

Dr. Overton, in closing the discussion, said that publishers of school text-books who are presumed, at least, to know what is or is not salable, absolutely refuse to allow even the slightest passing reference to such subjects.

Dr. Stephen Smith of New York read a paper on

A NEW METHOD OF AMPUTATION AT THE KNEE-JOINT APPLICABLE TO CASES OF SENILE GANGRENE OF THE FOOT.

Dr. Smith had devised his operation for a patient aged seventy-eight, with acoholic history and extremely rigid arteries, whose large toe was gangrenous. There were dusky spots around the ankle, and an enfeebled circulation in the foot and leg. Instead of adopting the high operation above the knee that has been recommended by so many American and English surgeons, and lately again by Mr. Jonathan Hutchinson, he studied the circulation to the knee, and planned his incisions so as to cut as few main branches of arteries as possible. The blood-supply to the soft tissues in the region of the knee is very copious, and by this operation none of it is interfered with. His directions are: "Make a straight incision, commencing two inches above the upper border of the patella downward over the center of that bone to the tuberosity of the tibia. From the lower extremity of this make two curved incisions, the convexity of each being downward, one to the external, the other to the internal border of the leg. Join these two incisions posteriorily by a straight incision across the upper border of the calf. Dissect these two flaps from the tibia and fibula, remove patella, and disarticulate the tibia." He secured union by first intention in his case.

Dr. Gouley, in the discussion which followed, said that some cases of senile gangrene do well with amputation at the knee-joint, but many require amputation higher up. He had seen a case in which the thrombus occupied the upper third of the femoral, when, of course, even amputation above the knee, unless at an unusual height, would have failed.

Dr. Cleaver of Reading, Pa., asked Dr. Smith how hemorrhage had been controlled during the amputation, and Dr. Smith explained that it was by digital pressure, the delicate sclerosed arteries being protected from possible injury even from pressure of the fingers by a pad.

Dr. Gouley said the Esmarch bandage is always contraindicated in these cases because of the danger of injuring the arteries.

Dr. Leroy J. Brooks of Chenango County then read a paper, entitled

SUBNORMAL TEMPERATURE.

Though the significance of this condition has not at-

tracted much attention, he considers it quite as important as supranormal temperature. All persistent subnormal temperatures he thinks pathological, despite the fact that a certain number of cases have been reported where this phenomenon existed in supposedly healthy people. The subnormal temperature is especially prone to precede and give warning of certain serious conditions. It has preceded in his experience in a number of cases the development of neurasthenia and hysteria. It was sometimes a prodrome of impending mental disturbance, physical and mental depression being coordinate. He noted it as an important index of approaching mental trouble in two members of a family, seven of whom had committed suicide by hanging.

He has noted it in dipsomaniacs just before an outbreak of their trouble. It constitutes in these cases a most significant index of the intense state of physical depression that supervenes, and finally drives the patient inevitably to the taking of stimulants to excess. In a certain number of cases subnormal temperature would seem to be the expression of a deficient circulation, due to hypoplasia of heart and blood-vessels, the heart especially being too small for the body, and then the subnormal temperature persists.

DR. DELANCEY ROCHESTER had seen subnormal temperatures in cases in which the heart seemed to have been too large for the body—in athletes, bicyclists, and football players. The subnormal temperatures were noted at times when the men had not been overexerting themselves, and seemed the expression of circulatory disturbance. He had found the excretions deficient in these cases from kidneys, bowels, and skin, though there were no gross changes in the urine. He considers the capillary circulation generally throughout the body to be at fault, and believes in stimulating in these cases, especially the cutaneous capillaries.

DR. OVERTON had seen cases of so-called malaria on Long Island, typically what would be called "biliousness" from the patient's general feelings, accompanied by subnormal temperatures. These, in well-drained localities, are not malarial but represent generally depressed physical conditions.

DR. DWIGHT L. HUBBARD of New York read a paper on

DENTAL PATHOLOGY AND ITS RELATIONSHIP TO GENERAL HEALTH.

Under the term dental pathology he would include oral pathology. He pointed out the significance of pathological conditions in the mouth for the digestive tract and for the auditory and olfactory tracts. He called attention especially, since it is neglected too much in our day, to the importance of reflexes from the mouth, and particularly from carious teeth. For the eye, he showed, by citation of cases from literature, that these dental reflexes are especially important, amaurosis and even glaucoma developing at times as a consequence of dental irritation, the latter, as Power has shown, because of reflexes from the fifth nerve setting up increased intra-ocular tension. Power insists that in all obscure eye lesions the teeth should be carefully examined.

Papers on "Urethral Stricture," by J. W. S. Gouley of New York, and on "A Convalescent's Shoe for Club-foot Cases," by Dr. S. E. Milliken of Texas, were read by title.

AFTERNOON SESSION.

DR. FLORENCE O'DONOHUE of Onondaga County read a paper on

STATE EXAMINATIONS OF MILK FOR TUBERCULOSIS.

New York State was the first to establish an inspection of dairies and of herds of cattle in order to limit the spread of tuberculosis and prevent the distribution of milk in which tubercle bacilli existed. She had been imitated in this by other States, notably by Massachusetts, that had now a very practical system of inspection, and required a certificate of health for all cattle entering the State. Unfortunately the work of inspection and especially of eradication of tuberculous cattle could not go on in New York during the last two years for lack of an appropriation for that purpose. Increasing experience has shown that much less tuberculosis comes through inhalation than was formerly thought. Especially in children is this true and as milk forms the exclusive article of diet of artificially-fed children, their danger can be readily realized. There are undoubtedly in the Hudson River counties, especially those close to New York City, tuberculous cattle. The danger of infection is constantly present. Dr. O'Donohue asked the members of the State Medical Association to interest themselves in this important question in order that the Legislature might be induced to appropriate money for the continuance of the hygienic work in the matter of eradication of tuberculous cattle that had been of such important service and had reflected so much honor on the State.

DR. MARCY of Massachusetts, in the discussion, said that in Massachusetts a great deal has been accomplished by the education of public opinion in the matter, so that now one of the first questions of the milk consumers is "Have your cows been tested for tuberculosis? Is your dairy regularly inspected?" etc. This education of public opinion in the matter he thinks extremely important.

DR. KNOPF of New York considers the time when the main source of infection in tuberculosis will be thought to be by inhalation is passing away. Not alone children but adults are infected by ingestion. Even when the initial lesion is pulmonary, the bacillus has been carried from the digestive tract in the lymph-paths and has settled in the apices of the lungs as *loci minoris resistentiæ*.

DR. O'DONOHUE, in closing the discussion, thought that the rôle of inhalation as an etiological factor of tuberculosis has been exaggerated. One proof of it is that despite the almost universality of the bacillus infections are after all infrequent, and second that the bacillus even in a favorable culture-medium is killed by six-hours' exposure to the sun, so that the much-feared danger from dried sputa getting into the air is exaggerated.

DR. DELANCEY ROCHESTER of Erie County read a paper on

THE TREATMENT OF CASES OF PULMONARY TUBERCULOSIS THAT CANNOT GO AWAY FROM HOME.

His method as illustrated by histories from his case-book consists in fresh air—the open-air treatment, with gentle exercise and hydrotherapy besides the usual drugs. He has his patients live almost entirely in the open air, take a tepid or cold douche every morning, with a brisk rubbing; a warm bath twice a week. He uses an emulsion, guaiacol and terebene in milk of magnesia, with excellent results, and uses inhalations from "the agar-holder inhaler" of the essential oils, especially oil of pepperment. Sunlight and air are, however, the curative agents for consumption, and they are of much more importance in its treatment than even any supposed effect of climate.

Dr. S. A. Knopf of New York, in discussing the paper, said that the ideal treatment of tuberculosis is not now the climatic one, but the treatment of patients in sanatoria. German experience has shown in recent years that this gives excellent results. The objection against it is its expense, but this is unfounded. At present patients in our public hospitals cost $1.16 per day, while there are sanatoria in the Adirondacks where the expense per patient per day is less than $1. It is possible then to treat even poor patients in sanatoria, thus removing so many foci of infection from among ordinary hospital patients and securing a large percentage of recoveries. The present percentage of recoveries from tuberculosis in public hospitals is practically *nil.*

In discussing the treatment of certain distressing symptoms of pulmonary tuberculosis he insisted upon the discipline of cough. In German sanatoria during meals no one is allowed to cough and a cough is scarcely ever heard. For pleurisy he referred to the good, old remedy of dry cups. For bad pulmonary hemorrhage tying off the limbs is wonderfully efficacious.

Closing the discussion Dr. Rochester reminded the Association that an effort is being made now to secure an appropriation from the State for the erection of a public sanatorium for needy tuberculous patients in the Adirondacks. The committee of investigation appointed last year as a consequence of an appeal from Erie County is about to report favorably, and he hoped that the members of the Association would see fit to use their influence to secure the passage of a bill calculated to be of such benefit to the community.

Dr. F. P. Hammond of New York County read a paper on

Genital Neuralgia and the Genito-Reflex Pains.

He insisted that severe genital neuralgia may develop as the result of but very slight pathological processes in the genital tract. It may often be cured, as he illustrated copiously by cases, by simple gynecological treatment. It is, however, sometimes a prodromal symptom of serious diseased conditions and as such may direct the physician to proper prophylaxis.

Dr. Didama of Onondaga County treated the Association to some characteristic memoranda from a wide practice. The paper was full of the quaintest, good natured humor, expressed in charming old-fashioned English, and containing withal, some excellent practical points in the simple treatment of disease as, for example, letting patients with bronchiectasis cough while leaning away out of bed so as to empty their tubes thoroughly without being subjected to the strain of coughing all the secretion up hill.

Dr. H. O. Marcy of Massachusetts read a paper, entitled

A Case of Fistulous Opening between the Ileum and Bladder; Operation; Cure.

The fistula was the result of ovarian abscess in a sterile married woman. Its position above the ileocecal valve was diagnosed by the character of the fecal portions found in the urine and the fact that milk injected high up into the colon did not come through the bladder. Dr. Marcy also presented 970 gall-stones removed from one patient, the largest number so far as he knows that has ever been taken out, and some of the smaller ones of this collection were lost before being counted.

Dr. Frederick Holme Wiggin presented a fibromyoma weighing twenty-one pounds, and a calcified fibroma weighing seventeen pounds. In the removal of the latter, in order to avoid threatened hemorrhage, he had tried rapid excision and had wounded the bladder very extensively. He had sutured it from within, however, and recovery had been practically uninterrupted.

Evening Session.

Dr. Seymour Oppenheimer of New York County read a paper on

Tuberculosis of the Middle Ear.

This affection occurs much oftener than is thought and is usually the result of infection from the pharynx. It may remain latent for a good while and its symptoms are sudden appearance of pus in the external auditory canal without previous or but very slight symptoms of inflammation. The absolute differential diagnosis is made by finding the bacillus of tuberculosis in the pus. This is not always easy and a number of specimens may have to be examined. In a large majority of the cases there are signs of pulmonary tuberculosis present. When there is not there will usually be found a primary tuberculous focus somewhere else in the body. Milligan claims that primary tuberculosis of the middle ear occurs not infrequently but this is not generally accepted. The ideal treatment would be the radical extirpation of the affected tissues but this is not easily accomplished and relapses are frequent. Attention to the general health, local cleansing, and perhaps the application of the quasi caustics, used for tuberculosis of the larynx, lactic acid, and the like are the best treatment.

Dr. Samuel Alexander of New York County then gave a lantern-slide exhibition relative to prostatic disease. A number of excellent photographs and microscopic sections of conditions in the prostate were shown. These served to demonstrate that the so-called post-prostatic vesical pouch in cases of prostatic disease is really a post-trigonal pouch. The band of muscular fibers connecting the ureteral inlets hypertrophies in the effort to empty the bladder despite the prostate impediment and

this gives rise to a bar across the base of the trigone behind which pouching occurs. From Dr. Alexander's specimens it is clear that the enlargement of the prostate is mainly glandular in character, the connective-tissue overgrowth in old cases being mainly the result of degeneration. They also make clear that the middle lobe is not so often the cause of the impediment to urination as has been thought. When the lateral lobes hypertrophy they also press the urethra downward, obstructing and lengthening it, and producing the long prostatic curve. The planes of tissue cleavage so to speak, *i. e.*, the connective-tissue capsules surrounding the glandular lobes of prostatic tissue, along which it is easy to shell them out of their beds in extirpation of the prostate, were prettily demonstrated in the microscopic specimens exhibited.

"Anthropological Rambles in the Orient, Especially in the Isle of Java, Profusely Illustrated by Stereopticon Views" by Dr. H. Ernest Schmid of Westchester County was next on the program. This was of special interest owing to our newly acquired interests in the Orient. The Dutch colonial system and methods of managing the natives was dwelt on. The thrifty Dutch have known how to rule the natives without friction, to respect their customs, and use their native aristocracy as under rulers, and have made the island one of the most prosperous colonies in the world. Dutch rule in Java will furnish some excellent lessons for the government of the Philippines.

SECOND DAY—MORNING SESSION.

The delegates from Connecticut, DRS. OSBORN and SWAIN of New Haven, presented a resolution from the Connecticut State Medical Society calling for a continuance of medical interest in the Senate Bill relating to vivisection in the District of Columbia, which has not been abandoned by its promoters, but is to be brought up again for consideration. Meantime the personal influence of individual members and the authority of medical societies is to be brought to bear to prevent the passage of an act that would inevitably lead to a curtailment of opportunities for the investigation of disease and remedies.

DR. WICKES WASHBURN of New York County read a paper on

TRUE AND FALSE MEDICAL AND OTHER CHARITIES.

He asserted once more his views to the effect that unorganized charity increases mendicancy, which is really a form of disease doctors owe it to themselves and their profession not to encourage. Legislation seems the best remedy for an evil that every one knows to exist. There is practically unanimity now as to the form which such legislation should take. Last year there had been some opposition on the part of the homeopaths, but that is now a thing of the past and the president of the State Homeopathic Society has expressed his willingness to work for the bill. There remains in opposition only certain private interests, but these will have to give way and may confidently be expected to yield to the evident necessity for reform in the matter during the present winter, when another determined effort is to be made to secure the passage of the bill which failed before.

In the discussion which followed DR. FINDLER of Renssellaer County said that one of the first abuses of medical charity that must be corrected is the treatment of clergymen free of charge. They can afford to pay and their failure to do so is an encouragement to others to neglect their obligations toward the medical profession.

DR. LEROY BROOKS of Chenango County said that the abuse of medical charity by people who can afford to pay has been fostered by the hospitals and dispensaries of New York City. Country patients have learned that they can come to the city and for a nominal charge for board at a hospital have medical or surgical attendance. Doctors themselves must strike at the root of the evil here in New York City.

DR. DUDLEY of New York County said that the medical attendants in hospitals here in New York have no choice in the matter. They are dependent on lay managers of hospitals and can only follow rules laid down by them, or resign their positions. It is the practitioners themselves in small towns or in the country who have taught their patients how to come to New York hospitals and get treated free of charge.

DR. HOLT of Maine said that practitioners in small towns sometimes do this rather than call in a consultant in their own town and so confess that there is something they do not know.

DR. HENRY L. SWAIN of New Haven, Conn., then read a paper on

ACUTE FRONTAL SINUSITIS.

This affection is more frequent since the grip than it used to be. It occurs in groups and in people living under cognate circumstances. Its symptoms are frontal pain and tenderness, usually unilateral, often with redness and swelling on that side of the forehead. Its treatment consists in keeping the nostrils thoroughly open so as to secure good drainage. Cocain is a useful drug for this, because it lessens the turgescence of the mucous tissue, but it must never be given to the patient himself to use. Aqueous extract of suprarenal capsule is an excellent remedy also, and this can be safely entrusted to the patient.

DR. DELANCEY ROCHESTER said that he has found antipyrin in 2- or 3-per-cent. solution, used with cocain, 4-per-cent. solution, very effective; the astringent property of the latter was increased and the duration of the effects made longer.

DR. SOLOMON SOLIS COHEN of Philadelphia read a paper on

MEDICINE WITHOUT DRUGS.

Though by no means a disbeliever in the benefits to be derived from drugs, but rather, on the contrary, an ardent advocate of their efficiency in many diseased conditions, yet he is ready to admit that there are methods of treatment apart from the administration of drugs that do good. Altitude, by its stimulating effect on the blood-making organs, is an important therapeutic agent in anemia, animals and men living at high altitudes having

been found to have more red blood-cells to the cubic millimeter than those living at or near the sea-level. For the same reason altitude has a beneficial stimulating effect on consumptives.

The resisted movements, with the saline and carbonic-acid baths, systematized by the Brothers Schott, and used with such success at Bad Nauheim, are certainly an important addition to our means of treating heart cases. Hot-air baths have a distinct place in the modern treatment of disease. Then apart from drugs, because they use Nature's means of accomplishing certain objects, must be considered the organotherapeutic preparations. Suprarenal-gland extract is of excellent service according to his personal experience in the treatment of exophthalmic goiter. It is useful whenever it is desired to increase blood-pressure. Thyroid extract stimulates all the emunctories and is especially useful to increase the flow of urine. Thymus extract has a distinct effect upon general nutrition and aids in the anabolic processes that are concerned with the building up of tissue.

All of these therapeutic methods apart from drugs exemplify the modern principle that the physician is here not to cure disease but to assist Nature in getting well.

Dr. Charles Phelps of New York read a paper on

THE TREATMENT OF FRACTURED PATELLA BY OPEN OPERATION.

Dr. Phelps has now operated himself in 105 cases, and his assistants under his direction in twelve cases more of fracture of the patella. He now thinks that he can say with assurance that the routine practice of opening up and suturing the patella is justified by its results. Under the old methods the results are uncertain, and extension of the limb is never satisfactory. By the open method bony union is practically always secured, and extension is usually as good as before fracture. As to the question of non-union because of deficient blood-supply to the patella, he has never seen it. The parts of the bone are always of a good pinkish hue when exposed, and there is even oozing from the fractured surfaces in many cases. New York surgeons have now employed the operation in some 430 cases practically without fatality, so that the operation must be considered now to have won its place in surgery.

Some surgeons consider that one cannot determine definitely whether bony union has taken place or not unless one has the post-mortem specimens in his hands, and this fortunately cannot be granted them, but the substance uniting the fragments has answered to all the ordinary tests for bone, and in a certain number of autopsy specimens that had been secured after death from other causes, bony union has been found. To still hesitate as to bony union in most cases is to be hypercritical.

Afternoon Session.

The afternoon session opened with a discussion on "Intestinal Obstruction," Dr. Parker Syms of New York County being the first speaker. He referred to the importance of the subject, the high death-rate, and the difficulty and necessity of early diagnosis. As a rule, at the beginning of a case but slight operative measures are necessary, once laparotomy had been done, while later, in a weakened patient, there may be some of the most serious problems in the realm of abdominal surgery to deal with.

Dr. E. D. Ferguson of Rensselaer County discussed "The Causes of Acute Intestinal Obstruction, with a Description of Their Mechanism." Besides the ordinary intestinal obstruction there occurs a set of cases with practically the same symptoms as obstruction that are so deceitfully like it that he feels sure that in many of the operations where no morbid cause is found after laparotomy, the real factor at work has been a toxic one setting up intestinal paresis. Three times he has been saved from operating almost at the last moment by finding grounds for the existence of lead paresis. Other toxic substances and ptomain poisoning may give rise to a similar state of affairs. This is undoubtedly the etiology of the cases that come to autopsy after seemingly a typical history of intestinal obstruction, and yet present no anatomical lesion post-mortem as a cause for it.

Dr. George D. Stewart of New York County followed with a paper on "The Causes of Chronic Intestinal Obstruction, with a Description of Their Mechanism." The causes of chronic intestinal obstruction cannot very easily be separated from those of acute obstruction and are not usually separated in the text-books. The two factors that most commonly lead to chronic obstruction are stricture and paresis of the intestine. Non-malignant stricture is due to cicatrization after the healing of an ulcer. Dysenteric ulcers are the most common cause. Any ulcer that has spread around the gut rather than longitudinally may be the cause. Though typhoid ulcers are often mentioned as etiological factors in the production of stricture it is doubtful if there is a single substantiated case of such a condition. Paresis of the intestine may develop as the result of impaction of feces or of nervous lesions, organic or functional, as in hysteria. Both these causes, accumulation of feces and nervous disturbance, may mutually interact to produce the paretic condition of the intestinal walls. Intestinal paresis may also be due to chronic catarrh or even to heredity.

Dr. J. D. Rushmore of Kings County then read a paper on "The Diagnosis and Indications for Treatment of Acute Intestinal Obstruction." No single symptom or set of symptoms is pathognomonic. Any of the symptoms ordinarily present and considered characteristic may be absent under certain circumstances. It is impossible by the usual methods to make an absolutely assured and early diagnosis in individual cases. Early diagnosis is extremely important. It is evident then that exploratory laparotomy at an early stage is justifiable. Practically no harm is done, and the patient is given the best show for his life. At present the mortality is high, between 70 and 90 per cent. Medical treatment is worse than useless, and delay dangerous. Our new set of statistics in the affection should be gathered from a series of cases, not with the surgeon called in on the third day, but in charge of the case from the very beginning and ready to investigate the source of the trouble as soon as its serious character is manifest. He feels sure that under such cir-

cumstances the mortality would be 20 per cent. or under and a new surgical triumph recorded.

DR. LEROY BROOKS of Chenango County followed with a paper on "The Diagnosis and Indications for Treatment of Chronic Intestinal Obstruction." These do not differ much from those of the acute variety. Exploratory laparotomy would seem to be the hopeful outlook in the matter. The surgeon must be ready to follow up his diagnosis of obstruction by immediate operation. Sometimes it must be remembered that in chronic obstruction the distention of the gut by impacted feces above the obstacle may have given rise to rupture of the coats of the intestine or to ulcerative conditions which may rupture into the peritoneal cavity. He has seen stercoral ulcers in the cecum give rise to perforative peritonitis in this way, when the seat of obstruction was farther on in the transverse or descending colon.

DR. GOULEY of New York County then read a paper, entitled "Intestinal Obstruction Due to Impaction of Feces, Gall-stones, Foreign Bodies, etc." He recalled some of the varied articles which had found their way into, and in many cases through, the intestinal canal.

DR. JOHN F. ERDMANN of New York County followed with a paper on "Intestinal Obstruction Due to Intussusception and Volvulus."

(To be continued.)

REVIEWS.

A LABORATORY TEXT-BOOK OF PATHOLOGY FOR THE USE OF STUDENTS AND PRACTITIONERS OF MEDICINE. By HORACE J. WHITACRE, B.S., M.D., Demonstrator of Pathology in the Medical College of Ohio (University of Cincinnati). Philadelphia: P. Blakiston's Son, & Co., 1897.

THIS book is designed for use by medical students during laboratory courses in pathology and as an aid for the correct interpretation and study of the sections which are given to the students in our medical colleges. The work is divided into chapters, dealing successively with inflammation, infectious granulomata, degenerations, tumors, the liver, respiratory system, thyroid gland, spleen, gastro-intestinal canal, heart, arteries, kidney, organs of generation, and the blood.

Some of the sections show much care and study in their preparation, others are too meager, and in consequence the text of the book is not even. The work contains more than one hundred illustrations, the greater number being reproductions from photomicrographs, in order to demonstrate to the student "the *actual* picture that is given by the specimen under his microscope." We are sorry to say that the author's good intentions in this matter are sadly disappointing and in most instances it is barely possible even to diagnose the organ under consideration, to say nothing of the pathologic changes. Even the roughest drawing is far preferable to a mediocre photomicrograph.

With this exception the book contains much that will be of assistance to the student and will serve as a valuable aid in laboratory work.

THERAPEUTIC HINTS.

For Trachoma, as well as for catarrhal conjunctivitis with or without implication of the cornea, EBERSON uses a 50 per cent. watery solution of ichthyol, to which a little glycerin is added. He finds that the ichthyol is much better borne than other local applications, and that it serves to effect a more speedy cure.

A Palatable Emulsion of Bromoform.—

℞	Bromoformi	ʒ i
	Tinct. tolutanæ	ʒ ii
	Syr. tolutani	℥ i
	Mucil. acaciæ	ʒ iv
	Aq. menth. viridis q. s. ad.	℥ iv.

Mix the bromoform with the tincture of tolu, and add gradually to a mixture of the syrup and the mucilage. Shake well and dilute with the spearmint water.—*Scoville.*

For Dysmenorrhea.—

℞	Ext. conii alc.	gr. xv
	Ext. scammonii alc. } aa	gr. v.
	Ext. opii }	

M. Ft. pil. No. X. Sig. One pill three times a day.—*Garrigues.*

Stimulating Expectorant in Bronchopneumonia.—

℞	Ammonii carbonat.	gr. xxiv
	Syr. tolutani	ʒ vi
	Spts. vini gallici	ʒ iii
	Syr. senegæ	ʒ iiiss
	Syr. acaciæ q. s. ad.	℥ iii.

M. Sig. One teaspoonful every two hours for a child two or three years of age.—*Goodhart and Starr.*

Liniment for Counter Irritation in Chest Affections.—

℞	Aceti cantharidis	ʒ ii
	Spts. camphoræ	℥ iii.

M. Ft. linimentum. Sig. Apply to chest at night.—*Guyon.*

For Senile Pruritus.—In addition to careful attention to the general health and the avoidance of coffee and alcoholic beverages the use of the following ointment is said to afford relief:

℞	Resorcin	gr. xv
	Ichthyol	ʒ ss
	Lanolin	℥ i.

M. Ft. ungt. Sig. For external application.

For Acute Non-diphtheritic Tonsillar Affections.—Salol is highly recommended by *de la Carrière* for its action in these cases. The pain and dysphagia are greatly relieved, the duration of the malady is lessened, and abscess formation prevented. Digestion is not disturbed so that the drug may be taken with meals. Sixty grains a day may be given to an adult, but the use of the drug must be suspended if the urine becomes dark. He prescribes as follows:

℞	Salol	gr. xxx
	Ol. amygdalæ dulc.	ʒ i
	Syr. simplicis } aa	℥ iii.
	Aq. dest. }	

M. Sig. Take in divided doses within twenty-four hours.

THE MEDICAL NEWS.
A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXXIII. NEW YORK, SATURDAY, NOVEMBER 5, 1898. NO. 19.

ORIGINAL ARTICLES.

THE MODERN SMALL-ARM PROJECTILE AND THE WOUND IT INFLICTS; A REPORT OF FIFTY CASES.[1]

BY WILLIAM FRANCIS CAMPBELL, M.D.,
OF BROOKLYN, N. Y.:
DEMONSTRATOR OF ANATOMY IN THE LONG ISLAND COLLEGE HOSPITAL; ASSISTANT-SURGEON TO THE KINGS COUNTY AND LONG ISLAND COLLEGE HOSPITALS; ADJUNCT-SURGEON TO POLHEMUS CLINIC.

THE evolution of the modern small-arm and its projectile marks an epoch in the history of ballistics. The changes wrought have been so radical and complete that armies have revised their tactics to meet the new conditions. Fifty years ago the old lead bullet was effective at two hundred yards. The modern rifle will fire forty shots per minute, and kill a man or a horse at two-and-one-quarter miles' range. It will be readily seen that with the advent of so powerful a weapon, with projectile modified in weight, diameter, and velocity, there must arise a difference in the injury produced and in the treatment indicated. With the progress of these engines of destruction the progress of surgery has mercifully kept pace. In the treatment of gunshot wounds to-day the surgeon achieves his most brilliant successes. In pre-antiseptic days septicemia and hospital gangrene were the shadows that hung about the cot of every wounded soldier.

Antiseptic methods and the use of the modern small-caliber bullet has radically changed the treatment of gunshot wounds, and renders possible the saving of lives and limbs as well as the restoration of useful function in a large proportion of cases. The study of gunshot wounds has received the attention of our ablest surgeons. During the War of the Rebellion the recorded results in the light of present knowledge only showed the limitations and imperfections of our art. With the discovery of Lister and the perfection of the small-arm, their study has received a new impetus and surgical practice, radical modifications.

Experimental research upon the cadaver has been carried on exhaustively. The results in actual warfare have been carefully studied during the British wars in India, the Græco-Turkish war, and of late during our own experience at Santiago. The results of many of the elaborate experiments of Delorme and Chavasse, Von Coler and Bruns have been verified in actual warfare, while Longmore and Stevenson, La Garde, and Senn have made invaluable contributions to the surgical literature of this subject. The purpose of the modern small-arm is to render as many men as possible *hors de combat* in the shortest space of time. It is not intended to mutilate tissue or even to destroy life. It is to accomplish the purpose in as humane a manner as is compatible with its mission. Its intent primarily is not to destroy the soldier, but to destroy the soldier's fighting capacity. How well the modern rifle accomplishes this purpose may be seen as we study some of the wounds which it inflicts. For "whatever increases in a marked degree the velocity of movement, force, and range of projectiles, whether it be alterations in the projectiles themselves or in the firearms from which they are discharged, changes proportionately the features of the injuries inflicted by them, and within certain limits the treatment necessary for their cure."

General Characteristics of the Modern Small-arm and Its Projectile.—In describing the modern small-arm it will be unnecessary to describe any particular make. Whether it be the Mannlicher of Austria, the Mauser of Spain, the Lee-Metford of England, or the Krag-Jörgensen of the United States, while differing in certain details they possess in common fundamental characteristics, *viz.*: they are rapid fire, of small rifled bore, and of extremely long range. The bullet averages about thirty caliber. It is composed of a core of lead, over which is a steel jacket with a thin covering of nickel to take the rifling. The gun can discharge forty shots per minute, with a muzzle velocity of 2000 feet per second, and an effective range of 4000 yards. The path which the bullet takes from the time it leaves the gun to its first point of impact is its trajectory, and this line has two motions, a motion forward and a motion of rotation.

Experiments upon the cadaver and the experience of actual warfare have shown that the severity of the bullet injury differs with the range at which the bullet strikes. In general, the severity of the injury decreases with the range. Authorities agree that in the trajectory of the bullet we may recognize at least three zones, the bullet injury differing in each zone. It is impossible to accurately define these zones. The lines of demarcation are imaginary.

[1] Read before the Brooklyn Surgical Society, October 6, 1898.

The bullet injuries are strikingly characteristic. The first division is known as the explosive zone. The bullet upon impact is said to have an explosive action, and causes terrific destruction to tissue. Bruns, whose investigations in this field have been most thorough, limits the explosive zone to 350 yards. To get a fair idea of the damage wrought in this zone, we may refer to the experiment of Von Coler, who thus describes the effect upon a full skull fired at from fifty-four yards: "The skull was completely shattered; the bones and scalp were torn into the smallest atoms, and scattered in all directions. The entire base of the skull was broken up into separate pieces of bone, the lines of fracture of which only partially corresponded to the natural sutures. There was nothing left of the brain but a pulpy substance mixed with fragments of bone, in which some individual convolutions of the brain could still be recognized."

The cause of this explosive action suggests an interesting query. Of the various explanations offered it will be sufficient to mention three. Lydston offers an ingenious solution in his analogy to the theory of the spinning top. At first the top not only rotates upon its axis but at the same time revolves about a point. It then settles down to a steady spin upon a fixed point, and finally begins to wabble as it loses its impetus. While in the steady spin upon a fixed point and the final wabbling we may see the analogy to the action of the bullet in its middle and ultimate zones, it is highly improbable that its explosive effect is due to the dual motions of rotation and revolution. The bullet receiving its impulse from behind can have but two motions—one of rotation, the other of translation. The top receiving its impulse from the side takes on for a moment the additional motion of revolution about a point.

The theory of hydraulic pressure has many eminent adherents. It is found that when a projectile is fired at a tin vessel sealed, that in addition to the holes of entrance and exit, there has been produced a twisted and torn condition in the sides of the vessel due to the pressure communicated to the liquid within. The tissues of the body are analogously considered as vessels composed largely of water, and the terrific destruction is due to the increase of pressure communicated by the bullet to the incompressible contents of the part struck. Von Coler has shown that these conclusions are defective, for he has demonstrated that similar destruction is caused by a bullet to the walls of a vessel filled with water but open at the top. Von Coler's conclusions have been verified by Stevenson, who found that it was immaterial whether the vessel were opened or closed, the destructive effects observed being the same. He therefore excludes the hydraulic theory as a scientific explanation, and offers the theory of "inherent energy" found in the high rate of velocity in the bullet at the moment of impact. He says "the soft parts themselves receive from the bullet a large amount of energy, and move outward in lines radiating from the long axis of a bullet track with such a degree of force that they act as secondary missiles on the neighboring tissues, and cause still further smashing and pulping of the tissues." The condition necessary, therefore, to produce explosive effects is great velocity in the bullet, and great resistance in the parts traversed by it. As before stated, the explosive range is about 350 yards. From this point the bullet traverses the middle zone and makes a clean-cut track until it loses much of its velocity and enters the ultimate zone where it may tilt or wabble and thus cause extensive laceration of tissue.

A matter of paramount interest to the surgeon is whether the projectile is purified by the act of firing. Longmore, after a full discussion sums up by saying: "Practical experience, indeed, contradicts the notion of the surfaces of a wound being scorched by heat whether the projectile has completely traversed the tissues concerned, or in its passage has been arrested in the flesh or by the opposition of a bone." Delorme also opposes the view that bullets can acquire such an amount of heat as would affect the tissues through which they pass or in which they lodge.

La Garde has shown that a bullet which is septic when fired will produce sepsis in the tissues which it traverses. He placed micro-organisms of anthrax on bullets and then fired them at susceptible animals. In every instance the animal succumbed, showing conclusively that there is no power of sterilization in the energized bullet. While the old lead bullet gathered its septic properties from the clothing which it carried into the wound track with it, the modern small-jacketed bullet seldom carries with it into the tissues shreds of clothing or infected substances. La Garde's experiments with powder demonstrate that while the old black powder was frequently the source of wound infection, the modern smokeless powder contains a substance which inhibits the growth of certain bacteria.

The Wounds Caused by the Modern Small-arm Projectile.—The three most striking features of these wounds are: (1) they are punctured wounds, not lacerated. This is explained by the small caliber of the projectile and its steel covering. (2) They are, as a rule, clean wounds, because of the infrequency of foreign bodies or infected material being carried along the track by the modern bullet. There being little devitalizing of tissue in the bullet track, and

the track being clean, there naturally follows the third feature, *viz.*, they heal rapidly. These characteristics are in strong contrast to the conditions imposed by the old lead bullet. The track through the soft parts was always much lacerated and contused, its diameter greater than that of the bullet. The tissues along the track were devitalized to a considerable extent. Shreds of clothing and other infected material were generally found within the track. The wounds always suppurated.

Let us examine in detail the wound inflicted by the modern small-arm bullet. The wound of entrance is circular with a hunched-out appearance, corresponding to the diameter of the projectile. The tissues of the bullet track are clean cut. The exit wound is a little larger than that of entrance (depending upon the velocity and the power of resistance of the tissues through which it has passed). It may be round, slit, T-shaped, or semicircular. The existence of a bone lesion may be diagnosed by the size of the exit wound. Von Coler, Delorme, and La Garde have shown that an exit wound, the diameter of an inch or more, is indicative of a comminuted fracture. In considering the effects of the bullet upon bone tissue we may safely postulate this rule: "The greater the resistance the greater the destructive effects produced by the passage of a bullet through animal tissue."

A great divergence of opinion exists among surgeons as to the amount of destruction caused by the modern projectile in the long bones. Referring to the rule that the destructive effects depend upon the resistance, we would expect greater destruction in compact bony tissue, less in cancellated tissue. The shafts must suffer most, the epiphyses less. The difference in effect is well illustrated in Cases XXX. and XXXVI. Both men received their wounds on the same firing-line. In Case XXXVI., the man was shot through the middle third of the femur. The bone was badly splintered, and longitudinal fissures extended for some distance along the bone. A subsequent amputation was necessary. In Case XXX., the man was shot through the condyles of the femur. A later operation to recover the bullet revealed a clean-cut tunnel through the bone about the size of a lead-pencil. The neighboring joint was not involved.

It would be fair to say that the splintering of bone decreases as the range increases, although Von Coler found that simple bullet-holes through compact bony tissue were never found even at extreme ranges. Primary hemorrhage as a cause of death on the battle-field is undoubtedly more common since the introduction of the modern small jacketed bullet.

The old lead bullet crushed and lacerated vessels. Instances of extensive injuries are reported with little hemorrhage. The new bullet makes a clean cut in the vessel, and speedy death must ensue unless the nearest comrade can render instant and intelligent assistance. An instance was recited to the writer in which a captain was shot through the thigh, severing the femoral artery. A private, standing near, went to his assistance, and by the captain's direction compressed the artery for half an hour until the surgeon arrived. A few hours later the same private received a penetrating wound of the chest (*vide* Case VII.).

It has been an interesting query to obtain from the wounded their sensations upon receiving a bullet wound. The evidence submitted shows that the mental state at the time the injury was received has much influence upon it. In the heat of excitement there were many instances where men were not aware that they had been wounded. In a few instances the men had been conscious of a wound, but kept on fighting without inconvenience. As a rule, the pain is not severe when bone is not involved. A few instances will illustrate. One man shot in the foot was carrying a number of canteens to refill at a distant stream; when the wound was received he thought he had dropped one of the canteens upon his foot. Another, shot through the fleshy part of the leg, experienced a sudden stinging pain. Another, shot through the shaft of the femur, felt as if he had been hit with a sledge. Another, shot in the ilium, felt as if his whole side had been blown out. Others shot through the chest experienced a sensation like an electric shock or sudden numbness. In most instances there is great nervous depression out of all proportion to the gravity of the injury. The impression upon a man's mind which this class of injury makes must in large measure account for the susceptibility to shock.

Whether the modern bullet will become encapsulated and remain a harmless quantity in the tissues as readily as the old lead bullet must be determined by those who have a larger field for observation at their command. The only opportunity for observing this phenomenon was in two cases in both of which the bullet was found lying in a circumscribed area of pus.

The cases to be considered are fifty in number, and came under my observation in Brooklyn. While few incontrovertible deductions can be drawn from so limited a number, yet they are full of pertinent suggestions, and as such are offered as a small contribution to the study of this class of wounds. Every man on the firing-line was provided with a "first-aid package," which contained a compress of sterilized gauze, a triangular bandage, and safety-pins. This was the primary dressing applied in each case.

WOUNDS OF THE HEAD.

CASE I.—Admitted to hospital fifteen days after injury. Bullet entered at the upper angle of the occipital bone on the left. It made its exit two inches above at the parietal eminence. The wound of exit was suppurating. There was complete paralysis of the right arm and slight paresis of the right leg. Patient left the hospital with nearly complete restoration of arm and leg function on September 7th.

CASE II.—Admitted to hospital fifteen days after injury was received. The bullet grazed the skull, causing a deep scalp wound over the left parietal region. The wound was suppurating when patient was admitted. Discharged cured.

WOUNDS OF THE NECK.

CASE III.—Admitted to the hospital fifteen days after wound was received. Bullet entered one inch posterior to angle of the mouth on the left. It split the second molar tooth and part of the alveolar process, and was deflected to the posterior pharyngeal wall, and there lodged. On admission patient suffered severe neuralgia, radiating from the occiput down to both shoulders. He was unable to make the slightest movement of his head without intense pain. There was a slight swelling on the back of the neck over the fourth and fifth cervical vertebræ. There was limited motion of the jaw, a separation of about one inch. About a week later he expectorated a quantity of pus from the wound in the posterior pharyngeal wall. August 11th, several spiculæ of bone were recovered from the pharyngeal sinus. The X-ray showed the bullet lodged alongside of the spine of the fourth and fifth vertebræ. Patient steadily improved, and was discharged August 27th with neck still stiff.

CASE IV.—Admitted to hospital fifteen days after injury was received. Bullet entered at outer margin of right trapezius muscle, two and one-half inches below mastoid process. Exit on left side of face, opposite second molar tooth. Wound healed *per primam*. There was a noticeable change in the voice sound. Voice steadily improved until time of discharge, September 7th.

CASE V.—Admitted to hospital fifteen days after being wounded. Bullet entered the under surface of the symphysis menti, and made its exit one inch to the right of the symphysis. Wound was suppurating. During convalescence patient suffered from neuralgia of the inferior dental nerve. Discharged cured.

WOUNDS OF THE CHEST.

CASE VI.—This is reported by Dr. Senn in the *Medical Record* of July 30th, as follows: "Edward O'Flaherty, Company C, 16th Infantry. Was wounded July 2d by a ball, forty-five caliber, from a bursting shrapnell. The projectile entered below the angle of the right scapula. Passed through the lung, diaphragm, liver, and lodged beneath the skin in front, between the seventh and eighth ribs. Bloody expectoration for some time, and slight elevation of temperature. July 12th, temperature normal. July 21st, patient suffers but little inconvenience from his wounds. No peritoneal or pleural effusion. General condition promises an early and complete recovery." Admitted to hospital July 27th. Wound was entirely healed. No pulmonary symptoms. Discharged cured.

CASE VII.—This case is reported by Dr. Senn in the *Medical Record*, July 30th, as follows: "John B. Senica, Company G, 22d Infantry, was wounded July 21st, by a bullet which entered his back just below the angle of the left scapula, passed upward through the lung, neck, and jaw, and emerged through the alveolar process of the right bicuspid tooth, cutting the tongue slightly. All the wounds healed in a short time by primary intention. Hemmoptysis profuse immediately after he was shot, and slight for the following few days. Left arm at first nearly powerless, with desquamation of the skin of the hand. Function of the arm returning gradually. In three weeks the patient was able to sit up for a short time each day. Physical examination of the chest at this time revealed nothing abnormal."

Admitted to hospital July 27th. Wounds were entirely healed. Physical examination showed complete flatness over the left side at the base; there was some dyspnea. Temperature ranged from 100° to 102° F. August 2d, thoracocentesis performed. Result *nil*. Patient continued to grow worse. August 23d, operation—two inches of the seventh rib was removed, and about eight ounces of pus and a large quantity of disintegrated tissue and clot removed. Patient has steadily improved. There is still loss of power in the left arm. Little improvement can be noted.

CASE VIII.—This case is reported by Dr. Senn in the *Medical Record* of July 30th, as follows: "William A. Cooper, Company A, Twelfth Cavalry, was wounded July 1st. The bullet entered an inch below the left nipple and escaped from the body an inch below the costal arch in the mammary line. It is questionable whether the bullet opened either the pleural or peritoneal cavity as the injury was not followed by any symptoms referable to visceral wounds in either the chest or abdomen, although the course of the bullet was such as to give rise to the suspicion that either or both of these cavities might have been invaded." Admitted to hospital July 27th. It was found that the ball had also entered the thigh at its middle third on the inner surface and lodged in the lower third on the outer surface. It could be felt beneath the skin in the position described. July 27th, bullet was removed. Patient made a rapid recovery. It is believed that the bullet did enter the lung as a history from the patient elicited the fact that he did suffer from some dyspnea immediately after being wounded and expectorated some blood.

CASE IX.—This case was reported by Dr. Senn in the *Medical Record* of July 30th, as follows: "Henry Mitchell, Company C, Seventh Infantry was wounded July 1st. The bullet entered over the right acromion process, passed through the apices of both lungs, and escaped through the second inter-

costal space above the right nipple. No hemoptysis at any time; dry cough, and a moderate hemothorax on the right side. Has suffered from quotidian form of malarial fever which is yielding to quinin. A speedy and complete recovery is expected." Admitted to Long Island College Hospital July 27th. Wounds were healed. No pulmonary symptoms. Patient has had some elevation of temperature which readily yielded to quinin, and was subsequently discharged cured.

CASE X.—Admitted to hospital twenty-three days after injury was received. Bullet entered the flexor surface of the left forearm and emerged through the skin and entered the outer surface of the arm and escaped at the inner surface. Entered the chest below the axilla, and lodged beneath the eighth rib near its vertebral attachment. In its course it produced a compound comminuted fracture of the humerus at the middle third; a penetrating wound of the lung and a fracture of the eighth rib at its angle. On admission temperature ranged from 100° to 103° F. There was marked dyspnea, a dry cough, and dulness over the left chest. The bullet could be felt beneath the fragments of the rib. Patient's pulmonary symptoms grew worse. July 19th, thoracocentesis performed. One pint of serosanguineous fluid was removed. July 22d, bullet without its jacket was removed, and two pints of purulent fluid and necrotic tissue were removed. After operation patient improved, but a large quantity of pus and débris was discharged, and it was decided to enlarge the opening for freer drainage. August 10th, part of one rib was removed, and a large quantity of necrotic tissue and disintegrated clot curetted away. The jacket of the bullet was recovered at this time. Patient is steadily improving.

CASE XI.—Admitted to hospital fifteen days after being wounded. Bullet entered on left side of neck one-half inch from the median line opposite thyroid cartilage. Exit on right side of chest at the fifth rib opposite the posterior axillary line. It fractured the clavicle at the inner third, injuring the second part of the subclavian artery and producing an aneurism which afterward proved to be arteriovenous in character. The fragments of clavicle were separated about one-half inch, beneath which could be felt a pulsating tumor giving a distinct bruit. Wounds healed *per primam*. No pulmonary symptoms present.

CASE XII.—Admitted to hospital fifteen days after the wound was received. Bullet entered second interspace one inch to right of sternum and made its exit just below spine of scapula. Patient suffered some from dyspnea and hemoptosis. Wounds healed *per primam*. Patient made a complete recovery.

CASE XIII.—Admitted to hospital fifteen days after being wounded. Bullet entered the second interspace to the right of sternum and made its exit just below the spine of the scapula on the same side. Wounds healed *per primam*. No further symptoms.

CASE XIV.—Admitted to hospital twenty-five days after injury was received. Bullet entered on left side at about the fifth rib in the axillary line and emerged on the right between the seventh and eighth rib to the outer side of mammary line. Both wounds of entrance and exit healed. Two days before admission patient fell and struck the wound of exit over the edge of a bath-tub. There resulted a swelling and subsequent rupture leaving a fistula discharging bile and mucus. Patient a few days later removed to hospital on Governor's Island.

CASE XV.—Admitted to hospital fifteen days after wound was received. Inspection showed a wound of entrance on the left side at the eighth rib in the posterior axillary line. No wound of exit. Patient complained of pain in the hip-joint, and there was anesthesia of the right lower extremity. The X-ray gave no result. August 27th, patient still complained of pain and the anesthesia had not subsided when discharged.

CASE XVI.—Admitted to hospital fifteen days after wound was received. Inspection showed a wound of entrance at the sixth interspace behind the axillary line and a wound of exit in the corresponding space on the opposite side. Patient suffered some from dyspnea and hemoptysis. July 20th, discharged with slight cough and dyspnea.

Out of the eleven cases of penetrating wounds of the lung, only two were infected, leaving eighty-two per cent. clean wounds. The symptoms in the non-infected cases were slight dyspnea and hemoptysis which passed away in a few days. In the two infected cases the symptoms were of slow onset and culminated in operation at the end of four and seven weeks, respectively.

WOUNDS OF THE EXTREMITIES.

CASE XVII.—Admitted to hospital twenty-five days after injury was received. Bullet entered outer side of arm three inches below the acromion and was removed at the field hospital from the left side of the neck at the outer edge of the sternomastoid muscle. Exit wound was suppurating.

CASE XVIII.—Admitted to hospital fifteen days after being wounded. Bullet entered one and a half inches below apex of shoulder. No wound of exit. Wound healed *per primam*. X-ray gave no results.

CASE XIX.—Admitted to hospital twenty-five days after being wounded. Bullet entered two and a half inches below the acromion on the outer surface of the right arm and lodged. Wound was clean. The X-ray showed the bullet lodged just below the clavicle at the middle third. Presence of the bullet gave no symptom and was left *in situ*.

CASE XX.—Admitted to hospital fifteen days after being wounded. Bullet grazed the olecranon process leaving a granulating wound of about two and a half inches. Patient said that small portions of olecranon were removed at the field hospital.

CASE XXI.—Admitted to hospital fifteen days after being wounded. Inspection showed a bullet wound of entrance at the fold of the elbow and a wound of exit on the inner side about one and a half inches above the condyle. The bullet severed the brachial artery. It was ligated at its middle third at the field hospital. On admission, wound of exit

was healed. Wound of entrance suppurated. Six days after admission an incision was made over the flexor surface of the forearm from the elbow to the wrist. The sloughing flexor muscles and tendons were cut away. The arm healed, but the hand has little function.

Case XXII.—Admitted to hospital fifteen days after being wounded. Bullet passed through the fleshy part of the forearm. Wound of exit was found suppurating.

Case XXIII.—Admitted to hospital fifteen days after being wounded. Bullet passed through the fleshy part of the right hand. Wound was suppurating. There was complete recovery of hand function.

Case XXIV.—Admitted to hospital fifteen days after wound was received. Inspection showed a bullet wound of the hand causing a compound fracture of the third metacarpal bone. Wounds were suppurating. Patient recovered with a stiff finger.

Case XXV.—Admitted to hospital fifteen days after being wounded. Bullet entered two inches below the crest of the ilium on the right side and was found by the X-ray lodged on the inner side of the thigh at the middle third over the femoral line. Bullet could not be found at operation. Patient made a complete recovery.

Case XXVI.—Admitted to hospital fifteen days after being wounded. Bullet entered one inch below the crest of the ilium on the right side, and came out of the buttock just above the anal cleft. It re-entered the left buttock and made its exit just above the gluteal fold. Wounds of exit suppurating.

Case XXVII.—Admitted to hospital fifteen days after being wounded. Bullet entered one inch below the anterior superior spinous process on the left and made its exit through the left buttock. Wound of exit suppurating. Patient complained of neuralgic pains in front of thigh and leg. Pain subsiding at time of discharge.

Case XXVIII.—Admitted to hospital fifteen days after being wounded. Inspection showed that the bullet had passed through condylar extremity of the femur. Entered the upper portion of the calf of leg and made its exit three inches below. The wound suggests the posture of the soldier when injured. There was no joint injury. Some suppuration from the wound of calf. Recovery complete.

Case XXIX.—Admitted to hospital twenty-five days after being wounded. Bullet entered the outer surface of the thigh at the middle third and lodged. On admission there was found a fracture of the femur at the middle third and a suppurating sinus leading down to the seat of fracture. July 28th, the opening was enlarged and several fragments of bone, together with the bullet removed. Patient is convalescing and the union is firm.

Case XXX.—Admitted to hospital twenty-two days after being wounded. Bullet entered the thigh at the lower third. Passed through the femur and lodged behind the internal tuberosity of tibia as shown by the X-ray. At operation the bullet was recovered and there was a hole tunneled through the femur about the diameter of a pencil. Patient made an excellent recovery.

Case XXXI.—Admitted to hospital twenty-five days after being wounded. Bullet entered three inches below the crest of ilium on the left and outer surface of thigh, and came out just below Poupart's ligament on the inner surface. It passed over and injured the foreskin, making a circumcision necessary. Exit wound suppurating.

Case XXXII.—Admitted to hospital twenty-three days after being wounded. Bullet entered the soft tissues of thigh two inches above the condyle of the femur. Bullet was found by the X-ray lodged in the tissues two and one-half inches above the external condyle. The bullet was removed and a circumscribed area of pus found surrounding it.

Case XXXIII.—Admitted twenty-five days after being wounded. Bullet entered the upper third of the right thigh on the outer side, and came out at the lower half of the thigh on the inner side. Wound of exit suppurating.

Case XXXIV.—Admitted to hospital fifteen days after being wounded. Inspection showed a bullet wound in the fleshy part of the right thigh. Wound healed *per primam.*

Case XXXV.—Admitted to hospital fifteen days after wound was received. Bullet wound of the soft parts of thigh at the middle third. Exit wound was suppurating.

Case XXXVI.—Admitted to hospital twenty-three days after being wounded. There was a bullet wound of entrance on the outer surface of the thigh at the middle third. No wound of exit. There was a fracture of the femur and a sinus leading down to the bone ends, from which exuded large quanties of pus. August 2d, an incision was made over the sinus track, and a number of small fragments of bone and a flattened piece of lead removed. Thorough drainage was established and the limb immobilized. August 9th, the patient showed signs of general septic invasion, and amputation of the thigh at the middle third was performed. Patient is making an excellent recovery. The Mauser bullet was found in the amputated limb just behind the head of the tibia in a half an ounce of pus. Its shape was fairly well preserved. The bone was badly comminuted, and there were a number of longitudinal fissures.

Case XXXVII.—Admitted to hospital twenty-five days after being wounded. Bullet passed through the fleshy part of thigh just above the knee. Wounds healed *per primam.*

Case XXXVIII.—Admitted to hospital fifteen days after being wounded. Bullet passed through the soft tissues just above the knee. Wound healed *per primam.*

Case XXXIX.—Admitted to hospital fifteen days after being wounded. There was a bullet wound of the fleshy part of the leg near the ankle. The entrance wound had healed *per primam*, leaving a small area of granulating surface at the exit wound.

Case XL.—Admitted to hospital fifteen days after being wounded. Bullet entered at the lower

angle of popliteal space, and passed obliquely downward four inches, emerging at the inner side of calf. Wound healed *per primam*.

CASE LXI.—Admitted to hospital twenty-two days after being wounded. Bullet passed through the lower third of tibia, producing a compound comminuted fracture. July 28th, wound was enlarged, fragments of bone removed, and through-and-through drainage established. No communication with the ankle-joint. Patient has firm union, and wound is rapidly healing.

CASE XLII.—Admitted to hospital twenty-two days after being wounded. Bullet entered the leg at the middle third. Was deflected by the tibia, and came out three inches below. Wound healed by first intention.

CASE XLIII.—Admitted to hospital twenty-five days after being wounded. Bullet entered the outer side of the calf, and emerged three inches below. Exit wound was suppurating.

CASE XLIV.—Admitted to hospital twenty-five days after being wounded. The bullet glanced across the crest of the tibia of the left leg, causing a compound fracture of that bone. Wound suppurating. Patient is making a rapid recovery.

CASE XLV.—Admitted to hospital fifteen days after wound was received. Bullet wound through the soft tissues of the left leg. Wound healed by first intention.

CASE XLVI.—Admitted to hospital fifteen days after injury was received. Inspection showed a bullet wound through the fleshy part of the leg near the ankle. Healing *per primam*.

CASE XLVII.—Admitted to hospital fifteen days after being wounded. Inspection showed a bullet wound of the ankle-joint. The bullet had evidently passed through both malleoli. Wound healed *per primam*. Function of joint perfect.

CASE XLVIII.—Admitted to hospital fifteen days after injury was received. Inspection showed a bullet wound passing through the third metatarsal space and perforating the sole. Suppurating wound of exit.

CASE XLIX.—Admitted to hospital fifteen days after being wounded. Inspection showed a bullet wound of the foot in the metatarsal region. Slight suppuration at the wound of exit.

CASE L.—Admitted to hospital fifteen days after wound was received. Inspection showed a bullet wound of the foot through the second metatarsal space. Wound healed by first intention.

Of these 34 cases, 15 were clean, 19 infected. Dr. Senn believes that many wounds of the extremities were infected because of the unnecessary change of dressings due to a natural desire of the men for treatment and the indulgence of the surgeons. Of the 19 infected wounds 11 were infected at the wound of exit, due in part, perhaps, to the extensive laceration and the devitalization of tissue at this point. Five were compound fractures, 2 were infected wound tracks, the tracks being short, the infection undoubtedly an ascending one, starting from the wound of exit, and 1 was an encapsulated bullet. There is no doubt that the majority of infected wounds were the result of unnecessary handling and the disturbance of the primary dressing.

CONCLUSIONS.

From a study of the cases reported we may conclude that all wounds inflicted by the modern small-arm projectile require immediate protection from bacterial invasion by the application of suitable dressings; that the great majority of these wounds require this and nothing more. It would almost be inferred that the inventor of the modern bullet was possessed of surgical instincts, so harmoniously does it work in accord with modern surgical technic. In the mid-range at least we may say that it incises without devitalizing; it penetrates without infecting. Modern bullet wounds are clean wounds. Their treatment consists in keeping them clean.

While the damage to the shaft of the long bones must always be considerable, the ends of the long bones suffer less; joint complications are few and amputations rare. Few bullets will be found lodged in the body because of the great velocity and penetrating power of the steel-jacketed projectile. The value of the X-ray in this class of injuries is simply inestimable. The probe with all its attending disadvantages has been relegated to a minor sphere of usefulness. The sense of sight has superseded the sense of touch, and surgical practice has advanced another step toward the ideal by Roentgen's great achievement.

Since primary hemorrhage must be the cause of many deaths on the battle-field, it is imperative that every soldier in our army and National Guard should receive instruction in the location of important arteries and the ordinary means of hemostasis. In such an emergency many lives could be saved by the intelligent efforts of a comrade. We might, too, with advantage, teach the value of the first-aid dressing and its proper method of application. The maxim of Nussbaum cannot be too strongly emphasized: "The fate of a patient seriously wounded is almost entirely in the hands of the surgeon who applies the first dressing."

I wish to acknowledge my obligations to Dr. H. B. Delatour for the use of this material, in whose service the patients were treated.

Death of Mrs. Fordyce Barker.—Mrs. Barker was so intimately associated with her husband, the late Dr. Fordyce Barker of New York, not only in his social but also his professional career that it seems fitting to record in our columns the fact that she died at Norwich, Conn., October 28, 1898.

ATONY OF THE STOMACH.[1]

BY A. J. PATEK, M.D.,
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ATONY of the stomach is a common affection, yet a condition which—not recognized as a distinct disease requiring definite measures for relief—gradually passes into a stage in which treatment is of little avail. Because of its practical importance, then, I wish to say some words concerning this affection, its cause, symptoms, diagnosis, and treatment, and to cite a few illustrative cases.

The name "atony," though commonly used to designate this condition is, correctly speaking, rather inaccurate, since it means "an absence of tone." This affection is, however, decidedly not of this character, and is better designated by the terms "hypotonia" (Bouveret) and "myesthenia gastrica" (Boas). Boas makes use of a classification of gastric motor disturbances that has met with favor by many; he speaks of mechanical insufficiency of the first and second degree, the first degree being so-called "atony," the second, "gastrectasia." By atony — to adopt the popular term—we mean a condition of diminished motile power of the stomach, resulting in an inability on the part of this organ to rid itself of its contents in a normal period of time. We may further speak of primary and secondary forms of atony, and this brings us to a consideration of the conditions under which it exists, and its causes.

Boas has observed primary gastric myesthenia occurring as a congenital or hereditary defect, and even finds it running in families, though Ewald doubts the frequency of primary atony, that is, a muscle hypotonicity pure and simple, and sees in this condition a strong neurotic element, leaning to its classification among the neuroses. Among the forces at play in bringing about an atony secondarily, we may state that general diseases, fevers, anemias, etc., that leave the system in an asthenic condition, often exert a similar influence upon the stomach-walls, reducing their tone likewise. Excessive eating and drinking, by the constant strain put upon the stomach-walls, may cause a dilatation and atony, though, as Pepper and Stengel[2] point out, dyspeptic symptoms are present also, and it is quite possible that the primary cause of atonic dilatation is some other gastric glandular disturbance. Atony may associate itself with any, and does associate itself with many forms of gastric disturbance, and thus it becomes a difficult matter to say which of these was the primary condition, and we find ourselves dealing with a vicious circle of circumstances. A primary gastric myesthenia soon has added to it disturbances of the gastric glandular functions, and *vice versa*, many pathological gastric conditions give rise to the complication, atony.

Indiscretions in diet, and, as already said, excessive eating, more particularly the inordinate use of liquids, such as alcohol, coffee, tea, soup, and the long-continued use of cathartic waters, etc., are the most common direct causes of this form of gastric trouble. There are also other and graver causes, such as internal and external obstructions to the expulsion of the stomach-contents, or gastric ulcer and carcinoma leading to secondary muscular changes, and these conditions frequently pass on to mechanical insufficiency of the second degree (Boas)—gastrectasia.

Among the more prominent subjective symptoms, we may briefly mention the following: a feeling of decided fulness after eating, and satiety before the full meal is taken, gastric distress of variable duration, eructations, dizziness, and constipation. The ingestion of fluids is especially prone to cause a sensation of weight. Neurasthenia, with all its pronounced and peculiar manifestations, is a condition frequently complicating long-standing atony, and with it obstinate constipation and fermentation are also troublesome complications.

The objective symptoms are of a more distinctive character, and call for an examination of the stomach with reference to its size, its power of expulsion and tonicity, and in a minor degree, the chemistry of its secretions.

Though atonic stomachs are not always dilated, this is so generally the case as to almost make it a rule. On the other hand, a large stomach is not always atonic, for it may have normal power of expulsion, a condition not frequently met with, and known as megalogastria. (Ewald.)

Normally the lower border of the stomach extends to a point about 1¼ to 2½ inches above the umbilicus, and an organ whose large curvature is found at or below the umbilicus may be considered to have abnormal dimensions, providing the condition be not one of a displaced organ—a gastroptosis.

The elicitation of the splashing sound ("*clapotement*" of the French) and the percussion of the stomach are among the important methods of physical examination. The splashing sound is elicited by a succession of quick shocks over the stomach-area with the tips of the fingers, and when present upon the taking of a small quantity of fluid, one cup, or several hours after a light meal, a myesthenic state may be inferred. An error may creep in if the contents of the colon are liquid; in such case the bowel should either be evacuated or a re-exam-

[1] Read before the Wisconsin State Medical Society.
[2] *American Journal of the Medical Sciences*, January, 1897.

ination made when the feces are of normal consistency.

Percussion, unless the stomach be artificially distended with fluid or gas, is, as a rule, quite unsatisfactory, though Pepper and Stengel (*loc. cit.*) seem to be well pleased with the results they obtained with auscultatory percussion. I have tried this method in a few cases, with fairly satisfactory results; it is surely far superior to the ordinary method of percussion.

Artificial distention is most easily brought about by administering a Seidlitz powder, drinking the two portions separately, so that the evolution of gas takes place in the stomach, or better—and fraught with less danger—by pumping air into the stomach with an ordinary bulb-syringe through a previously passed tube. Electric illumination of the stomach (gastrodiaphanoscopy) is also used, but has found few enthusiastic supporters. Dehio's method, that of having the patient drink two or three tumblerfuls of water while standing, and then determining the lower border by percussion, is quite satisfactory. The Röntgen-ray gives promise of becoming a very useful adjunct to the methods of diagnosticating the position and contour as well as abnormalities of the stomach and intestines. Boas and Levy-Dorn[1] use for this purpose large-sized celluloid-coated gelatin capsules filled with metallic bismuth. This capsule is swallowed, and since it permits but few rays to pass through, and hence throws a satisfactory shadow, can be followed in its passage from stomach to bowel until it leaves the system, and its position noted at various periods. The results thus far obtained have, according to the authors, been very encouraging.

Various tests of motor-function are made use of—the best being Leube's test-meal, consisting of a plate of soup, a piece of steak, a slice of bread, and a glass of water. Seven hours after its ingestion this must normally have passed out of the stomach. If, upon examination with the stomach-tube, solid particles are found remaining, a motor weakness may be argued.

Ewald's salol test has been found sadly deficient by many observers, but instead of examining the urine to record the time that elapses before the salol begins to be excreted, Huber has suggested a modification, testing for the length of time during which excretion takes place. He claimed that a normal condition existed if the urine reaction (purplish precipitate upon the addition of ferric-chlorid solution) disappeared after twenty-seven hours, and that a delay in the expulsion of the stomach's contents could be argued if the reaction continued many hours after. The reliability of this is adhered to by a few, but fought by many.

The chemical examination of the stomach-contents shows, in an uncomplicated case, nothing distinctive. The acidity may be subnormal, but more frequently there is a normal or hyperacid condition.

The diagnosis of gastric atony is not difficult if the various subjective, and, more especially, the objective, signs as detailed, are elicited. In the differential diagnosis gastrectasia and gastroptosis must be considered. As symptoms of gastrectasia we may mention: excessive dilatation, habitual vomiting of enormous quantities—frequently containing remains of a previous day's meal, and this in a state of much fermentation, hyperacidity, and usually sarcinæ and yeast fungi; morning lavage reveals remains of the previous evening's meal, a condition never found in atony; the general health of a gastrectatic patient is very bad, and emaciation is often quite extreme.

Gastroptosis, a sinking of the whole stomach, is usually associated with a certain degree of enteroptosis. There are frequent attacks of severe pain after meals, and marked constipation. Examination reveals the following: considerable emaciation, distention in umbilical region and relative flattening in epigastrium, succussion-splash demonstrable at some distance, splashing sound elicited over a vertical area of six inches (two above and four below umbilicus), covering the visible distention, and making it possible to definitely outline the large and small curvatures without artificial distention. In addition, there are evidences of the retention of food in the stomach for longer than normal periods. In this case we must diagnosticate dilatation in addition to dislocation of the organ.

In place of detailing the treatment prescribed for the average patient, I shall dwell on two illustrative cases of atony, one of very mild character, the other of very severe type, and the treatment of these patients may be taken as that quite generally applicable to all this class of cases:

CASE I.—E. K., aged twenty-two years; office clerk; leads a very sedentary life. Complaint of gastric distress is of three-months' standing. Acidity and fulness are experienced after eating, and there is considerable gaseous distention and constipation. There is no vomiting. Four hours after eating a light meal splashing could be elicited in the epigastrium, its lower limit being 5 cm. (1½ inches) above the umbilicus.

Auscultatory percussion of the stomach covered this area quite accurately. The patient refused to have a stomach-tube passed, so no direct examination of gastric contents could be made. However, from the data given, I felt justified in making the diagnosis: atony of mild degree, without dilatation. He

[1] *Deut. Med. Woch.*, No. 2, 1898.

was advised to take as much exercise as possible. In addition he was given a cascara laxative and told to make frequent flexion-movements of the thigh on the abdomen while lying in bed—these movements acting as a massage, strengthening the abdominal muscles. For direct tonic and stimulant action nux vomica was given in pill form, combined with soda bicarbonate. Four weeks later he reported himself well, and physical examination elicited nothing abnormal.

This, it is true, was a mild case, but the tendency of the disease is to progress, and the earlier the proper treatment is instituted the more satisfactory are the results for both physician and patient.

I wish now to detail another case of atony, but one of very different character, since it shows us the disease in a very advanced stage, bordering on gastrectasia, and illustrates the symptoms, diagnostic points, and treatment in an instructive and satisfactory manner.

CASE II.—Male, aged twenty-eight; bookkeeper by occupation; has been complaining of gastric discomfort for about ten years. His habits have been fair; alcohol and tobacco are used moderately; when careful with diet feels more comfortable, but frequently indulges in heavy and rich meals. Complaint now is of gastric uneasiness and a feeling of weight and fulness of several hours' duration after eating. Does not vomit. Fluids especially occasion distress. Several times, after midnight suppers, he has had to remove contents of stomach on the following morning by means of the stomach-tube, such was the uneasiness felt. He has come to me on several occasions, an hour or two after eating, to have his stomach washed out and relieved of its distress-giving contents.

Ordinarily no residue of the evening meal is ever found in the stomach on the following day, and this fact was thoroughly tested. Gas eructations are frequent; appetite good; there is but little epigastric pain or sensitiveness to pressure. During the past few years he has had various neurasthenic symptoms: giddiness, drowsiness, lack of energy and concentration of thought. The bowels are markedly sluggish, in fact, there has not been an unaided movement for several years. Occasionally great abdominal distention occurs several hours after eating, and this accumulation of gas causes great discomfort.

Examination reveals the presence of the splashing phenomenon four hours after a very light lunch, and after two tumblerfuls of water are taken it can be easily elicited as low as the umbilicus. I did not artificially distend the stomach but light percussion seemed to bring its lower border about one inch below the umbilicus. Upon the results of the salol test alone I should not base positive conclusions, but with other symptoms pointing to a dilatation and motor-insufficiency, I think it significant that the excretion of the salol in the urine began long after what has been considered the normal period, and continued, instead of about twenty-seven hours, more than forty hours after its ingestion. The stomach contents when removed one hour after a Boas-test breakfast, consisting of a roll and a large glass of water, showed but little undigested matter, slight fermentation; the total acidity varied at different times between 0.10 per cent. and 0.27 per cent. (normal 0.15–0.20 per cent.); free HCL. was always present, lactic acid absent. Unfortunately a Leube test-meal was not taken at this time, but I considered the other signs sufficient to warrant the diagnosis of gastric atony, without passing the tube for another examination. Abdominal massage, galvanization, and faradization, both intra- and extra-gastrically, properly regulated diet, strychnin with soda, salol, laxatives, etc., constituted the general treatment. Four months later the Leube test-meal was given and the stomach was found to have completely emptied itself in the normal period of time—seven hours. Moreover, the splashing phenomenon was practically absent; the lower border of the stomach descended but little beyond the normal, and the salol test, taken for what it is worth, exhibited a positive reaction at what is considered the normal period—sixty minutes after its ingestion, and disappeared altogether after a lapse of twenty-seven hours. The intestinal atony that also exists, still gives considerable annoyance.

As to the treatment of gastric atony the following general directions may be given: All discoverable causes, such as anemia, condition of exhaustion, etc., should be attended to and rectified as far as possible; the excessive use of alcohol and other liquids must be stopped; the diet must be properly regulated: it should consist of easily digested foods, and better than three full-sized meals per day are five meals, each of smaller quantity and taken at shorter intervals. The gastric contents should be tested occasionally, if the acidity is above normal, meat diet is more easily digested; if subnormal, a lighter diet, consisting of light meats, vegetables, etc., is indicated; liquids are to be used in small quantities; fresh fruits frequently set up fermentation, stewed fruits on the other hand, being usually well borne. A general tonic treatment is to be highly recommended; deep massage of the abdominal walls, calisthenics, hydrotherapy, electricity, both faradic and galvanic, and applied externally as well as intraventrically. Of various drugs that may be used, strychnin is the best' and with it may be combined a laxative, soda bicarbonate if necessary, salol, or salicylic acid, if there is much fermentation, etc. The constipation must be combatted with suitable diet and an occasional laxative. Drastics should be avoided. Systematic lavage of the stomach is uncalled for, since in atonic conditions no residual food is found in the stomach in the morning, and therefore, lavage accomplishes no purpose.

To summarize then, we record as subjective symp-

toms of gastric atony: Fulness, weight, and distress after eating, early satiety, eructations, nervous symptoms, and constipation. Objective signs: Atonic dilatation and deficient motor power. Treatment: Dietetic, general, and tonic.

CARBONIC-ACID GAS; ITS PHYSIOLOGICAL ACTION AND THERAPEUTIC EFFECT, AS SEEN IN EMPHYSEMA OF THE LUNGS, ANEMIA, WHOOPING-COUGH, DYSENTERY, AND IMPOTENCE.

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(Continued from page 548.)

3. *Carbonic-Acid Gas as a Therapeutic Agent in Chlorosis, Asthma, and Emphysema of the Lungs.*—The physicians of olden times were aware of the anesthetizing qualities of carbonic-acid gas. Local application of carbonic-acid gas was still a favored remedy of English physicians of the Eighteenth Century. In the year 1832 Professor Mojon of Genoa recommended carbonic-acid gas douches against dysmenorrhea, a treatment which had been known and had been forgotten again. Brown-Séquard demonstrated the anesthetizing effect of the gas on the larynx. In former times carbonic-acid gas inhalations of a specified degree were a well-known, extensively employed therapeutic measure. From the observation that the fumes of freshly plowed earth did good service to consumptives, or at least seemed to do, the conclusion was arrived at that the carbonic acid of these fumes was the essential agent. From the reports on the curative effect it can be inferred that the relief obtained was due to the narcotic action of the gas. The application of carbonic-acid gas in this form was abandoned. An unintentional admission of carbonic-acid gas by way of respiration takes place sometimes during bathing of patients in carbonic-acid baths. There are cases on record in which the gas escaping from the bath has brought on more or less severe intoxications. Ordinary precautions have to be observed. However, the direct poisonous effects of carbonic-acid gas have been exaggerated, for it has been found that air containing from fifteen to twenty per cent. of this gas can be breathed without producing any immediate evil effect, providing the quantity of oxygen in the air be increased in a like proportion. Intravenous injections of carbonic-acid gas which have been carried out repeatedly on animals are not qualified to be considered for methodical application as a therapeutic measure.

The physicians of Nauheim were the first who gave a scientific description of the influence of carbonic-acid water-baths in different nosological conditions, especially in disorders of circulation. Great praise is due to Beneke, the first who demonstrated that the water-bath saturated with carbonic-acid gas is a powerful and effective stimulant for the enfeebled heart. He was the first who had the courage to place dyspnetic patients suffering from uncompensated valvular disease into the bath. His beginning was rewarded by most significant success. He also tried the effect of the baths in other nosological conditions, in arthritis and nervous diseases. Schott and Groedl continued to work on the basis which had been laid down by Beneke, and their success is universally known. The brothers Schott have established a system of their own of physical therapeutics of disorders of circulation in which carbonic acid plays a rôle. A number of contrivances have been recommended to give artificial carbonic-acid baths as substitutes for the natural ones of Nauheim, among them those of Ewald, of Rudinger, and of Körting.

The induction of carbonic acid into the circulation by way of the rectum is an idea of recent date, at least we find in older literature only a few notes here and there according to which this form of application has been thought of. Bergeon, in the year 1886, published his new method of treatment of phthisis, based on the fact established by Claude Bernard, that volatiles introduced into the rectum will pass through the venous blood-current to the lungs where they will be eliminated without entering into the arterial system or developing any deleterious effect. Bergeon calculated by means of enemata of sulphuretted hydrogen diluted with carbonic-acid gas to destroy the tubercle bacilli within the lung tissue. In the course of events his method soon became widely known and was extensively practised in France and in America. In Germany almost no notice was taken of it. Among the eighty publications on this method collected by Wesener, only three are of German origin. The great majority of authors confirmed the observation that the general condition of the patients treated was improved, but they soon found that the tubercle bacilli did not disappear, and that not the sulphuretted hydrogen but the carbonic acid was the effective agent; whatever benefit was derived was due to the carbonic acid solely. Although some of the most distressing symptoms of phthisis were at once relieved, namely, the general condition, the cough, the expectoration, the night-sweats, the fever, and especially the dyspneic difficulties and the feeling of oppression, the method was abandoned because it did not answer the main expectation; it did not cure tuberculosis. Having thus been dis-

appointed, nobody for a while grasped the idea of making use of the undisputable healing power of the gas in other but tuberculous affections of the lungs. Physiological and pharmacological interests should have induced consideration.

The large amount of carbonic-acid gas having been induced into the rectum passes through the veins, enters into the alveoli and from there, obeying the physical law, is diffused in an upward direction, and thereby an access over the normal process of the diffusion of the gases takes place, that is, more than the normal amount of carbonic-acid gas ascends, and more than the normal amount of oxygen descends, the ventilation of the air-passages thus being increased.

Increased ventilation of the lungs brought on by increased respiratory activity, that is more profound inspirations, causes a larger amount of oxygen to be retained in the body, but only a small part of this extra amount of oxygen enters the blood; by far the greater part enters into the composition of the residual air, enriching it with oxygen. With the increased activity of the respiratory organs the body uses up a larger amount of oxygen than normally, and the small extra amount in the residual air is needed to cover the deficit, and there is not enough left to add noticeably to the oxygen of the blood. Increased ventilation of the lungs brought on by increased diffusion as a consequence of carbonic-acid inflation of the rectum is in all probability followed by increased accumulation of oxygen in the blood. This is the main factor of the curative effects which thus far have been observed.

Ephraim administered carbonic-acid gas per rectum to a number of out-door patients. He gave, as a rule, one, and only in exceptional cases two sittings a day. Liquefied gas in the manner described was employed. The patients treated were suffering from chlorosis, phthisis, and asthma. Of chlorosis he had eleven cases (girls of the age of from sixteen to twenty-two years). The circumstances surrounding them were most unfavorable in regard to health. All these patients belonged to the poorer classes; they were obliged to earn their living by working in factories. Their fare was correspondingly a very poor one. In order to secure the results of the carbonic-acid treatment pure and simple, nothing was changed in regard to occupation and mode of living of these patients while under treatment. The cases selected were all of a severe form of chlorosis, and except in one instance they all were of long standing and had been under treatment. One of these patients was not benefited by the carbonic-acid gas; in two cases there was marked improvement, and in seven complete cure. The examination of the blood was made in nine out of the eleven cases, and was confined to the number of red blood corpuscles. An unmistakable, and in most instances a considerably increased, number of red blood-corpuscles was noted. Although there was no examination made in regard to the amount of hemoglobin, Ephraim thinks that there must have been, judging from the improved general condition of the patients, an improvement in this direction. It may safely be said that Ephraim's experience shows that carbonic-acid-gas treatment is an excellent auxiliary in the treatment of chlorosis. The result of the examinations of the blood support the theory that the healing effect is due to an increased induction of oxygen into the blood. For asthma he treated 20 patients, 10 of whom were suffering from true bronchial asthma, 5 from neurasthenic asthma, 3 from emphysema of the lungs associated with bronchitis and asthmatic attacks, the nature of which could not be exactly defined. All the ten patients suffering from bronchial asthma were relieved from these difficulties for shorter or longer periods of time. This result was a surprise, considering that the affection is, as a rule, unyielding to all sorts of treatment. In these cases the effect of the carbonic-acid gas made itself noted after various lengths of time. Even in the chronic cases subjective and objective improvement was noticeable almost from the commencement of the treatment, and improvement in regard to duration or intensity or in both. Amelioration of shortness of breath was noted not only during the attacks but also in the intervals, and bodily exertion, as climbing of stairs, could be borne with greater facility. Simultaneously with relief of dyspneic and asthmatic difficulties there was experienced a most beneficial influence on the bronchial catarrh. Only in one case no change was noticed during treatment. In all these cases only a limited number of injections was given. Ephraim observed in some cases that nightly attacks would be prevented when the injections were made during the afternoon; that they would come on, however, when the injections were given during the forenoon.

4. Carbonic-acid Gas in the Treatment of Whooping-cough.—This subject has been treated by me first in an article published in the *New York Medical Journal*, March 9, 1895, and in two communications, which have appeared in the same journal, November 30 and December 28, 1895.

During the spring of 1897 I addressed myself to Dr. Joseph O'Dwyer. He, in a most amiable letter, accepted my proposition to give the carbonic-acid-gas treatment for whooping-cough a trial in the New York Foundling Asylum. The result was published by Joseph O'Dwyer and Nathaniel Read Nor-

ton in their treatise on whooping-cough, which appeared in the fourteenth volume of "The Twentieth Century Practice." During 1897, at the New York Foundling Asylum, 150 cases of pertussis were treated by the carbonic-acid-gas douche. Of the whole number, 143 of the patients showed very marked benefit. The vomiting ceased, even in the severest cases, by the second or third day, the whoop disappeared, and the number of paroxysms was reduced to two and three daily. The seven remaining patients were apparently not benefited; one of the seven was well along in the disease before this treatment was instituted. The duration of the disease, so far as could be determined, was not influenced. Not the slightest ill effect of the treatment was observed. During the administration of the gas the faces flushed decidedly, and this lasted some fifteen minutes. The treatment was given three times daily, some two or three hours after meals. In infants the treatment lasted five minutes at each time; in the "runabouts" ten minutes. The treatment has been the most satisfactory ever used in the institution.

In the month of July, 1898, the treatment by the gas of a large number of cases of pertussis in the New York Foundling Asylum was again commenced. The report will be presented at some future time.

5. Carbonic-acid Gas in the Treatment of Dysentery.—My most satisfactory experience with the gas in this affection I published first in the *Annals of Anatomy and Surgery*, December, 1883, and later in an article which appeared in the *New York Medical Journal*, March 9, 1895. It was only recently, while looking up the whole literature on carbonic acid as a therapeutical agent, that I found in Sobernheim-Lessing's *Handbuch der speciellen praktischen Arzneimittellehre*, Leipzig, 1863, the following information: "Finally the gas exhaled by the mineral springs containing much carbonic acid is used externally against putrid, scorbutical, carcinomatous ulcers. I am constrained also in this place to recommend the carbonic-acid-gas douches into the rectum." For almost fifteen years I had been under the impression of having been the first to recommend carbonic-acid-gas douches in dysentery.

6. Carbonic-acid Gas in Impotence and Some Gynecological Affections.—The first noticeable effect of carbonic-acid baths is a peculiar sensation of warmth, with pricking, especially at the perineum, from where it extends gradually over the whole body, reddening the skin. This effect is most marked on the inner surface of the thighs, on the perineum, on the scrotum, the labia, in short, on all parts which are especially well supplied with sensitive nerves. The frequency of the pulse is at first diminished; after twenty minutes it becomes normal again, and after prolonged stay in the bath it exceeds the normal. During the bath there is an increased desire to micturate, and afterward the amount of urine voided is unusually large. The physiologic effect is, therefore, congestion in the vascular system, and irritation of the peripheral nerve-ends. Carbonic-acid baths have been recommended in affections of the nervous system in general; as, for instance, hypochondria, hysteria, neuralgia, peripheric paralysis, and in combination with gymnastics in disorders of circulation.

The rational application of carbonic-acid-gas baths or douches in the treatment of impotence and some gynecological affections is of great importance. Careful investigations have proved that the effect of carbonic-acid water does not essentially differ from that of carbonic-acid-gas baths, in most cases; moreover, as much or more service may be rendered by the simple gas douche as with either water or gas bath. Physicians at watering-places are aware that men who are easily excited will have erections during their stay in the carbonic-acid water-bath, and that in many the libido becomes markedly stronger under treatment by such baths. It is the peripheric irritation near the sexual organs which increases sexual sensation in men of this class. This erection is especially noted when the rectum is inflated with carbonic-acid gas. Evidently it is due to the innervation, discovered by Fellner, of the rectum by branches of the nervi erigentes. It goes without saying that those forms of impotence which depend on malformations, congenital defects, diseases like diabetes, nephritis, cerebral lues, tabes, and atrophy of the testicles are not amenable to treatment by carbonic-acid gas. Carbonic-acid gas is, however, an excellent remedy in neurasthenia sexualis, in nervous impotence caused by diminished utilization of the capability of the spinal centers, or by disorders of their reflex conduits.

In cases of spermatorrhea, polutiones diurnæ, ejaculatio præcox, in which the nervous weakness depends on morbid irritability of the spinal apparatus for ejaculation, carbonic-acid gas is not to be resorted to; in such cases hydrotherapy and electricity are the means to be considered, because our object here must be to reduce irritability and to improve the power of resistance. It may, however, happen that after the last-named remedies have done their work carbonic acid will be indicated.

In general, carbonic-acid gas is a remedy to be applied in cases of missing erectio and libido not combined with spermatorrhea, in which the difficulty has no other basis than the purely nervous. The

grave forms of impotentia paralytica and psychica are also to be excluded. An exceptionally favorable field presents itself in impotentia senilis præcox.

In the female, conditions of oppression or atonia or torpor of the sexual organs may be relieved by means of carbolic-acid-gas douches, and sterility depending on anaphrodisia may be cured. During sexual excitement a constriction of the vagina takes place by which means retention of sperma is aided. The uterus at these times descends into the pelvis, the os opens, and ejaculates mucus of alkalin reaction from the cervical glands, which secretion acts on the mobility of the spermatozoa simultaneously with the ejaculation, and erection of the lower uterine segment takes place, which erection changes post-cohabitationem into relaxation, whereby the sperma is aspired. The absence of this erection often is the cause of sterility, and in such cases carbonic-acid-gas douches may prove of service. It is well known, however, that exceptionally, women may conceive who experience no erection, no excitement. There are cases in women as well as in men of absence of sexual excitation, in which no benefit can be expected from the application of carbonic-acid gas.

I have found the gas, also, a most reliable agent in the treatment of vaginismus.

Démmé of Philadelphia describes a case of puerperal eclampsia in which the os was rigid and unyielding; it dilated under the influence of the carbonic-acid-gas douche. In another of his cases this douche gave most marked relief in painful labor and seemed to aid dilatation of the os. In a number of other cases he succeeded in rendering labor painless by applying the gas douche to the os for a minute or two every ten minutes. Démmé's experience is easily explained by the fact that carbonic acid produces local anesthesia especially on mucous surfaces; difficult, however, it is to explain why this effect is not generally made use of in midwifery. Scanzoni, in the year 1857, recommended carbonic-acid gas as a means to induce premature birth. Notwithstanding that the prominent gynecologists, Simpson, Hohl, and Gustav and Carl Braun have contradicted Scanzoni and have furnished conclusive evidence that he was in error when he attributed to the carbonic-acid douche the power to cause contractions of the uterus, his assertion is frequently met with in literature. Hohl says that carbonic-acid gas induced into the vagina would be as little apt to cause contractions of the uterus as if it was applied to the abdominal wall. It would require too much space to enumerate here the proofs of this assertion, which are given in the writings of the four gynecologists named. I reported as early as the year 1885 on cases of incessant vomiting in pregnancy in which I had successfully applied the carbonic-acid douche. In a case which I at first supposed to be one of amenorrhea I convinced myself that the carbonic-acid-gas douche applied to either vagina or rectum is not apt to induce abortion. My patient lived in the country. I did not see her for weeks, but when I saw her again she had, according to my instructions, several times a day and every day for weeks in succession applied the douche, part of the time to the vagina and part of the time to the rectum. At this visit I discovered that she was pregnant in the third month. The pregnancy is still progressing. It is true Ephriam applied the carbonic-acid douche to the rectum in a case in which he did not suspect pregnancy, and after the third application abortion took place. Ephriam says that this one case does not prove that the douche was the cause of the abortion.

The apparatus which I employ consists of a bottle holding a pint or more with a wide mouth and a rubber stopper, the latter perforated so as to admit a glass tube, which at the external end is connected with a rubber tube, and at the farther extremity a nozzle to be introduced into the rectum. The bottle is to be filled one-third with water. The glass tube in the bottle is to reach as far down as one or two inches above the level of the water. In the water are put about 6 drams of bicarbonate of soda, and then when everything is ready for inflation half an ounce of large crystals of tartaric acid. If pulverized acid is used the development of the gas goes on too rapidly. The bottle is now closed quickly, the carbonic acid rises through the tube, and inflates the rectum. Démmé's contrivance presents the advantage that it can be carried conveniently in pocket or satchel, and is unbreakable. It consists simply of an India-rubber bag with two openings, the one to serve for attachment of the tube, the other for the introduction of the materials used in generating the gas. This opening is closed by a properly fitting cork.

CLINICAL MEMORANDA.

TWO INTERESTING AND UNUSUAL COMPLICATIONS OF PNEUMONIA.

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CASE I. *A Rare Complication of Pneumonia Consisting of an Ascending Neuritis of the Phrenic Nerve with Extension to the Brachial Plexus. Recovery, with Permanent Atrophy of a Part of the Shoulder and Arm Muscles.*—J. S., a healthy farmer, forty-three years of

age; previously robust, and from a stanch family. On April 6, 1888, I was called to see him, and found him suffering from an acute attack of pneumonia of the right lung. It was ushered in by a severe chill and much vomiting. The latter symptom was a pronounced feature during the first week of the disease. He was jaundiced on the fifth day of the disease, and after the first week presented typhoid symptoms—great depression, dry, brown tongue, diarrhea, and muttering delirium. The spleen and liver were both enlarged. At the end of the third week resolution was slowly advancing, and his temperature, diarrhea, and delirium were disappearing, when he was suddenly attacked by severe hiccough. It was constant and violent, and appeared as if in one act of hiccough the diaphragm was rapidly contracted and relaxed two or three times in the space of time usually occupied by an ordinary spasm.

In the face of blisters, galvanism, tight bandaging, snuff, morphin, and the whole gamut of antispasmodics, with little intermission, the hiccough persisted five days and five nights. With little hope we watched him grow weaker and weaker under the awful strain of this "double-barreled" hiccough, as Dr. Latta of Goshen, Ind., aptly called it. On the sixth day of the hiccough it was noticed that the stools were clay-white, and it was decided to give him calomel. An acquaintance with his habit of taking 10 to 20 grains of the drug at a dose in health encouraged me to give the massive dose of 1 dram, divided into three parts, administered at intervals of two hours. The remedy opened his bowels. The hiccough stopped before morning, and he began a tedious recovery. No ptyalism was produced. Several days after the hiccough had ceased he began to complain of severe pain in his right shoulder, and a distinct loss of power in the arm and shoulder-muscles was apparent. Hot applications eased the pain, but the whole region was very sensitive to touch.

Examination four months later revealed an appreciable atrophy of the trapezius, spinati, deltoid, and supinator longus muscles, and a noticeable weakness of the whole scapho-humeral group. Two years later the shoulder had not regained its wonted power and contour.

This rare complication of pneumonia was not then recognized as a neuritis of a part of the bronchial plexus by extension from an ascending inflammation of the phrenic nerve. The course of the paralysis and atrophy was characteristic of a brachial neuritis, but its remote relation to the inflamed area and the writer's deficient knowledge of neuritis ten years ago caused him to fail to recognize the true nature of the case.

Hiccough is produced through the agency of the phrenic nerve, and may result from irritation of the diaphragm, peritoneum, or mucous membrane of the alimentary tract. The phrenic has its origin mainly from the fourth cervical nerve, but usually receives contributing filaments from the third and sixth cervical nerves. Hoover and Howard[1] in their excellent paper on "Tropical Abscess of the Liver," state that "phrenic-nerve irritation, besides the local pain, often manifests itself in regions which are supplied by nerves having a common or contiguous origin with the phrenic." Rouis collected 163 cases of liver abscess, in 28 of which there was a history of pain in the region of the shoulder, and he details a case which affords as good evidence as mine of the possibility of an ascending neuritis of the phrenic. A man, aged twenty-three years, had an abscess of the liver which opened spontaneously in the epigastrium. Pain was persistent in the deltoid muscle until the rupture. He lost power in the deltoid, and six months later the muscle was much atrophied. I really doubt the existence of a genuine ascending neuritis of the phrenic nerve, but would rather suspect a neuromyelitis. My reason for this faith is that a patient with neuritis usually recovers, whereas a myelitis always cripples more permanently.

[1] *Amer. Jour. of the Med. Sciences*, vol. 114, pp. 150–263.

CASE II. *Inflammation of the Right Parotid Gland Complicating a Right Pneumonia; Suppuration of Gland; Operation and Recovery.*—Osler[1] says that parotitis, as a complication of pneumonia is an "excessive rarity." He refers to a case mentioned by Traube, and reports the only case that he has ever seen. Dr. A. J. Hamilton[2] has also reported a case. Osler's case was fatal. Hamilton's patient recovered. These are the only reports of cases that I have been able to find, and the following one embraces my entire experience with this very rare complication of pneumonia:

J. H., male, single, white, aged twenty-two years; a music printer by occupation. Previously healthy; good family history. I first saw him in private practice, February 18, 1894. He had experienced a severe chill the night preceding my visit, and had developed a dry cough and severe pleuritic pains in the right side. I found him with a temperature of 104° F., pulse 120, and respiration shallow, hurried, and very painful. The cough was constant and distressing. Physical examination revealed the typical signs of a severe right lobar pneumonia, with a decided pleural inflammation. It proved to be a "frank" pneumonia, and pursued a severe but natural course. The tongue was constantly dry, and the pleuritic pains radiated to the back and right shoulder.

Resolution was well advanced on the twelfth day, when he was seized with severe pain in the region of the right parotid gland. I was sent for and found the gland hot, swollen, and tender. His temperature had risen from 100° to 105° F. He had successive chills and suffered great pain. His temperature for the following four days rarely fell below 104° F. He was evidently a very sick man, and Dr. A. J. Cook was called in council. We were in doubt as to the presence of fluctuation in the greatly swollen gland, but were sure that the patient ought to be sent to a hospital. He was sent to St. Vincent's Hospital on the following day and placed under the care of Dr. N. Stone Scott, who made multiple deep incisions into the inflamed gland and scraped out a quantity of gangrenous gland tissue, and irrigated and packed the cavities. The outlook was indeed gloomy, but to our surprise and gratification he made a prompt rally and an uneventful recovery.

[1] Osler, *University Med. Magazine*, vol. viii.
[2] Hamilton, *Idem.*

ENORMOUS HYPERTROPHY OF THE KIDNEYS AND DILATATION OF THE BLADDER AND URETERS IN A CHILD THIRTEEN MONTHS OF AGE. SUPPURATIVE ORBITAL CELLULITIS.

By HENRY B. HEMENWAY, M.D.,
OF EVANSTON, ILL.

CASE I.—On May 22, 1893, I was called by Dr. Wm. A. Phillips to assist in the delivery of a breech-presentation case. The child was large, and the mother was rather fleshy, making delivery difficult. Both mother and child did well under Dr. Phillips' care, and I knew nothing more of them until July 11th following, when I was called to see the baby in the absence of Dr. Phillips from the city. I found at that time a well formed female child, with skin slightly yellow, and abdomen prominent. Percussion showed dulness in the lower portion of the abdomen and around the navel. She was peevish, frequently vomited food, and her bowels were inclined to be constipated. Urine was passed frequently, but in what quantity I could not determine.

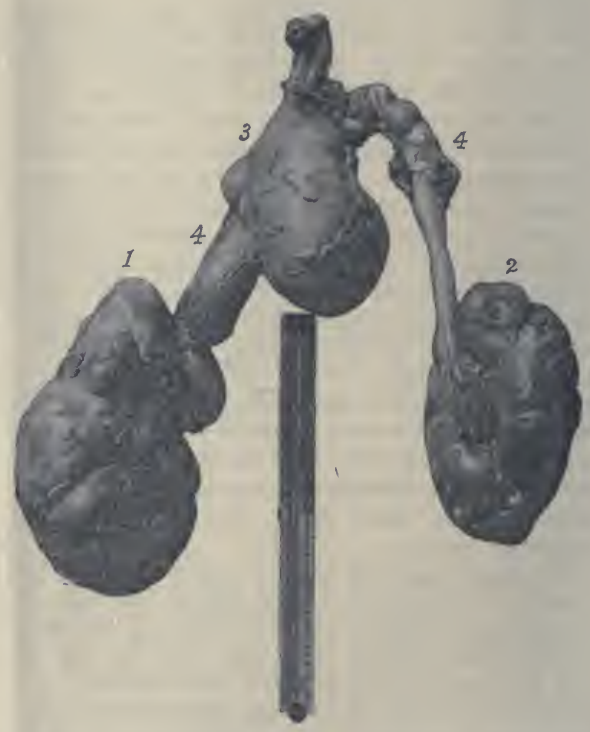
Considering that the trouble was probably due to obstruction of the portal circulation and indigestion, treatment was directed toward improving these conditions. I understood that from the time the child was born this general treatment had been pursued. Nevertheless, the abdomen continued to increase in size, and the child was evidently losing strength. Respiration and heart action were rapid. Finally, July 23rd, at my request (for the family had been offended on account of the doctor's absence from town, and a misunderstanding with his substitute,) Dr. Phillips was called in consultation. After examining the little patient we retired to consult. We agreed on the probable diagnosis, and on the past treatment. As to prognosis we were not sure. We agreed that she might drop off in a day or two, or she might recover. The rapid shallow respiration, and rapid feeble pulse, irregular as to rapidity, were the most serious symptoms. Neither of us could understand why we could not reduce the size of the abdomen with laxatives. While we were consulting we were informed that the patient had ceased breathing. So far as we could see, when we had been examining her, there had been no change for several days. There was no convulsion.

The autopsy, 5½ hours after death, showed slight rigor mortis. There was moderate icterus. Umbilical hernia, not protruding. Subhemorrhagic spots on left lower leg. Incision through $\frac{1}{32}$-inch subcutaneous fat was followed by the escape of abdominal fluid—ascitic—which was icteric in color. There was no protrusion into the umbilical hernia, which was produced by the ascitic fluid being crowded into the weakened area. The bowels were normal in appearance, but the entire abdominal cavity was filled with the cystic kidneys and bladder, as shown in the accompanying photograph. These we did not open, as Dr. Phillips desired to submit them to an honored member of the profession for careful examination. I regret to say that the professor referred to died before making a report.

My own theory of the case is that there was a membranous obstruction to the exit of urine from the left ureter. Gradually this membrane was pushed forward until it interfered with the exit of urine from the ureter. In this way there was a constant distention of the bladder, left kidney, and ureter, while urine was discharged from the right side when the tension was great enough to force it by the obstruction. It will be noticed that the relative size of the left kidney is greater than appears from the photograph, it being further from the camera. The rule shown is a foot long, half closed. The left ureter is raised upon a piece of pasteboard. The left kidney was about 5 inches long.

Family History.—The father, aged forty-five years, is of bilious temperament. His urine is generally scanty and highly colored with urates. His lungs were "weak"

FIG. 1.



Hypertrophy of the kidneys and dilatation of the bladder and ureters in a child thirteen months of age. 1. Left kidney. 2. Right kidney. 3. Bladder. 4. Ureters.

when he was young. His father died at the age of sixty-seven of consumption, and his mother of "grip" at sixty-two. He has two sisters, aged forty-seven and forty-three years, both in good health. One half-brother died at the age of forty-four of Bright's disease or diabetes. The family used the terms synonymously. His father died of the same disease.

The mother of the patient is aged forty-three years. Health good. Her father may have died of kidney disease, but his final illness was the result of an injury. Mother living and in good health. The patient's mother had seven brothers and one sister, all living and in good health. The parents of our patient had had six children, the oldest being about nineteen years old at the time of the

death of the baby. None of the other children has ever shown evidence of kidney disease.

CASE II. *Suppurative Orbital Cellulitis.*—May 20, 1896, I was called to see Miss M., Irish, aged sixteen years. Thursday, May 18th, she suffered from toothache in the left upper first molar which was badly decayed. She went to a dentist who advised that the tooth be pulled, but she objected. Friday the tooth continued to ache for which she used some "drops" purchased at a drug-store. When I first saw her, at 2 P.M., Saturday, there was marked exophthalmos of the left side, the result of a general orbital cellulitis. The house was small, crowded, and uncleanly. I was not prepared for such a grave case, and so advised that she be sent to the Illinois Eye and Ear Infirmary without delay. Before supper time she was there, and had had the offending tooth extracted. The surgeon in attendance also made an incision into the upper lid. The following Thursday, May 25th, at the earnest request of the parents, who were not pleased with the treatment, I visited the hospital, and there met the surgeon. He is a fine operator in eye surgery generally, being both rapid and neat. This case, however, being out of the ordinary line seemed to stagger him. He attempted to enlarge the external commissure and injected a bichlorid solution into the opening in the upper lid. He suggested to the interne something about an opening into the antrum, but he did not make it nor was one ever made.

June 2nd the patient was brought home and again placed in my charge. There was at that time a profuse discharge of offensive pus. Twice each day the cavity was washed out with a solution of peroxid of hydrogen, or of thymenthol. After a few days it became possible to force the injection into the nasal cavity from the orbit. Two spontaneous openings had occurred, assisted at the last by the knife, one through the lower lid near the inner canthus, the other near the external canthus in the upper lid. The eyeball had evidently broken soon after she had entered the hospital. Gradually the amount of discharge decreased and I was able to detect a sequestrum in the ethmoid region. This I wished to remove in September, but the patient was feeling so much better that she declined further treatment.

I met her recently on the street. The opening in the upper lid still discharges a small amount of pus. The eyeball is apparently about one-third as large as its mate. The cornea is hazy.

Why this abscess should have been opened at its *highest* point I never could understand. Good drainage is absolutely essential in all cases of suppuration. After the case came back into my hands, there was no apparent need for further openings. Those existing, though not ideally located, served well, and it was no longer a question of saving the eyeball even. At first, so severe was the inflammation, I had little hope of saving the sight, and even feared for the patient's life. I regret, however, that I did not at once make a large opening at the bottom of the orbit. Had that been done, and the orbit antisepticized, I think the eyeball, and possibly some sight might have been saved. A preexisting catarrh evidently had some bearing upon the case, and had the patient permitted the removal of the sequestrum doubtless the fistula would long ago have healed.

MEDICAL PROGRESS.

Pulmonary Tuberculosis Treated with Large Doses of Creosote.—LAMPLOUGH (*British Medical Journal*, May 28, 1898) records the results of treating one hundred cases of phthisis with large doses of beechwood creosote. He was surprised to find that the toxic symptoms which are said to follow the administration of large doses were absent in nearly every case. The method of its administration is as follows:

A few minims of equal parts of creosote and alcohol are dropped into an oronasal respirator, or the patient is treated in a creosote chamber. Five minims of creosote thoroughly mixed in 2 drams of cod-liver oil are administered three times daily after food. Five minims of creosote are to be added every other day to each dose until a maximum of 40 minims three times a day is reached —in about two weeks. If the patient is unable to take cod-liver oil the creosote should be given in 20 minims each of alcohol and compound tincture of gentian and 30 minims of fluid extract of licorice. If the creosote causes a burning sensation this may be at once relieved by sucking a bit of lemon or swallowing milk or water. This symptom seemed to be no more troublesome after a large dose than after a small one. Out of a hundred cases where this creosote was given in these large doses, only five patients were unable to continue taking the drug. Two of these had such advanced lesions that they died in two weeks after admission to the hospital. A third objected strongly to the taste and smell of creosote and refused cod-liver oil, whether alone or mixed with extract of malt. The other two patients were able to take cod-liver oil, and it was given to them pure. Of the 100 cases 62 had disease of both lungs; nevertheless, 68 patients were either partially or entirely relieved of their symptoms and gained in weight, an average of four pounds each in about two-months' treatment. The physical signs also improved greatly in many cases but not in comparison to the improvement in the symptoms.

Although creosote is by no means a specific for pulmonary tuberculosis its good effects are beyond question and the harmlessness of large doses is clearly brought out by Lamplough's daily observation of these patients. So far as could be ascertained from frequent and careful examination of the urine creosote has no injurious effect upon the kidneys. These large doses are well borne by children. Three of the patients treated were between five and seven years of age. In two of them the disease was marked. They all took 30 minims of creosote three times a day with decided improvement and no signs of toxemia.

Having compared the objections raised against the administration of beechwood creosote in phthisis with the results obtained at this hospital by treating 100 cases with this drug, the writer suggests that the following points are worthy of consideration and further investigation:

1. The best beechwood creosote can be given with

benefit, in amounts varying from 120 to 240 minims daily, in cases of pulmonary tuberculosis.

2. The drug is best administered in cod-liver oil or in a spirituous solution, and in some cases the "creosote chamber" or oronasal inhaler may be ordered in addition, with advantage.

3. The dose should be smaller at first, but it can be rapidly increased to 40 minims three times daily for an adult. In 3 cases doses of 30 minims three times a day were well borne by children.

4. Large doses rarely cause any gastric disturbance; on the contrary, the appetite is frequently increased, symptoms of dyspepsia disappear, and cod-liver oil is more easily assimilated. The cough, expectoration, and night-sweats are diminished, and the physical signs improved.

5. Owing to its disinfectant action in the alimentary canal the drug probably diminishes the risk of tuberculous enteritis by auto-infection when patients swallow their sputa, but owing to the increased peristalsis, which is created by creosote, it is usually contraindicated in cases where the ulceration is already advanced.

6. The drug does not tend to cause hemoptysis, but rather to prevent its recurrence.

7. Creosote does not irritate the normal mucous membrane of the genito-urinary tract.

8. Owing to its extremely small cost pure creosote can be given to a much larger number of patients than the carbonates of creosote and guaiacol, which respectively cost four times and twelve times as much as the older drug.

Gastric Ulcer Successfully Sutured Twenty-four Hours after Perforation. — CABOT (*Boston Medical and Surgical Journal*, August 11, 1898) reports a case in which he was able to find and suture a perforation in the stomach of a woman of about thirty years of age. The opening was in the lesser curvature and was surrounded by a fibrinous exudation. The indurated area marking the base of the ulcer was about an inch in diameter. This he dimpled into the stomach so that the Lembert sutures passed through healthy tissues. Two rows of stitches were taken. The perforation seemed to have occurred about twenty-four hours before the operation, but no portion of the stomach-contents had escaped; at least none could be detected in the peritoneal cavity, although a large quantity of gas had escaped from the stomach and obscured the liver dulness. The abdomen was irrigated with a salt solution and carefully wiped out. The patient made a steady recovery, the most annoying symptom being excessive flatulence. No food was given by the mouth for several days after the operation. A small gauze drain was used, which was pulled out on the fifth day.

Reason for the Increase of Cancer.—WILLIAMS (*Lancet*, August 20, 1898) laments the fact that so little attention is given by physicians to the constant increase of cancer. In England and Wales, in 1840, cancer caused 1 in 129 deaths. In 1896 the deaths due to it numbered 1 in 22 of the total mortality. Thus the proportionate mortality from cancer is now four and a half times greater than it was half a century ago. In this respect its position is unique, for no other disease can show anything like such an enormous increase.

Probably no single factor is more potent in determining the outbreak of cancer in the predisposed than high feeding. The consumption of meat has been increasing year by year, until now it has reached 131 pounds per head per year in England and Wales, which is more than double what it was half a century ago, when the conditions of life were more compatible with good living than they are to-day. When excessive quantities of such highly stimulating forms of nourishment are ingested by those whose metabolism is defective it seems probable that there may thus be excited in those parts of the body where vital processes are still active such excessive and disorderly cell proliferation as may eventuate in cancer. No doubt other factors cooperate, especially deficient fresh vegetable food and lack of sufficient exercise.

A remarkable fact about increasing cancer mortality is that is has affected males to a much greater degree than females. Thus while the cancer mortality for males from 1851 to 1890 shows an increase of 167 per cent., the increase for females has been only 91 per cent. Williams explains this upon the ground that modern city life is compelling many more men than formerly to live the inactive overfed existence which has for a long time been the lot of most women. He believes that it lies in the power of physicians and the laity to greatly reduce the occurrence of cancer—perhaps to abolish it altogether—by calling attention to these causative factors, and insisting upon the avoidance of gluttonous habits of life.

THERAPEUTIC NOTES.

Migraine Due to Muscular Gastric Atony.—DOL (*Gaz. Heb. de Med. et de Chir.*, June 5, 1898) says that it is well recognized that digestive troubles often cause vasomotor disturbances, as evidenced by flushed face, cerebral congestion, and other symptoms. There are other symptoms of a nervous character simulating an attack of migraine. Such attacks seem to occur in connection with muscular gastric atony of the stomach. There are two types of this. In one of these there is the sudden onset identical with an attack of migraine but always occurring after a meal. The other type, less violent, is characterized by an intense pain after meals. It possesses some of the points of migraine. The treatment should accomplish the complete evacuation of the stomach and intestines either by vomiting and catharsis or by lavage. Prophylactic treatment in order to cure the atony of the stomach should always follow the measures designed for temporary relief.

Emetic for a Child.—

℞	Pulv. ipecacuanhæ . . .	gr. viiss
	Antimonii et potassii tartratis .	gr. 1/6
	Oxymel scillæ	ʒ iiss
	Aq. dest. . . q.s.ad.	℥ i.

M. Sig. For a child of six to ten years, one teaspoonful every ten minutes until vomiting occurs—*Baginsky.*

THE MEDICAL NEWS.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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Address the Editor: J. RIDDLE GOFFE, M.D.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK.

Subscription Price, including postage in U. S. and Canada.

PER ANNUM IN ADVANCE	$4.00
SINGLE COPIES	.10
WITH THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, PER ANNUM	7.50

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LEA BROTHERS & CO.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK,
AND NOS. 706, 708 & 710 SANSOM ST., PHILADELPHIA.

SATURDAY, NOVEMBER 5, 1898.

A NEW YORK medical contemporary states that the Emperor of China is dying of systemic poisoning. As, according to the London *Times*, the physician of the French Embassy who examined him reported that he was suffering from albuminuria, incipient phthisis and great debility an appeal to poison in the case, we humbly submit, would seem scarcely called for, and the slur at the Empress, that the *Record* makes, unfounded as far as the evidence goes. It is usual to find the deaths of prominent people, when due to obscure disease, attributed in history to poison, especially if they seemed to occur at an opportune time for some one else, but it is time that this sort of thing should cease now that advances in medicine have made it possible to diagnose diseased conditions with accuracy. In the present case certainly, with a patient suffering from serious pathologic conditions of two important organs, there should be no medical countenance of rumors as to poisoning without authoritative and detailed substantiation of the reports.

A NUMBER of lay contemporaries, and we are sorry to say even some of the medical journals, mentioned the first victim of the plague as *Dr.* Barish. He was not a medical man but only a hired assistant in the laboratory, who made media, tended to the animals, and kept the laboratory in order. It is in such men particularly, ignorant as they are, and incapable of being impressed with the seriousness of the dangers they run, that familiarity begets contempt, until finally some neglect of necessary precaution leads to an outbreak of disease. Under present conditions the presence of such comparatively untrained assistants is indispensable in laboratory work, so that there is absolute necessity for such legal regulation of experimentation with epidemic disease as we insisted on editorially last week. Dr. Müller owed his infection, it would seem, to his voluntarily attending Barish medically, though he knew that he probably had to deal with the most infectious form of the disease, the pulmonic type.

Professor Nothnagel has received a great deal of unenviable notoriety in the matter, though his only connection with it was the circumstance that the experiments were being conducted in the laboratory of his clinic. Dr. Müller, who has been one of Professor Nothnagel's clinical assistants for some years, was the clinical member of the Austrian Plague Commission which went to India a year ago last spring. He brought home the cultures with him and not unnaturally used the laboratory he had at hand. Laboratory room is not over generously supplied in Vienna, especially in the General Hospital. Workers must be satisfied with the least possible conveniences, in cramped quarters. With them scientific enthusiasm must make up for the tempting airiness and roominess of the modern laboratory of research.

THE third part of the address of Sir William Crookes, at the recent meeting of the British Association for the Advancement of Science, entitled "The Position of Psychical Research," contained statements which, if emanating from any other man of equal eminence in the scientific world would have caused unbounded surprise. It was, however, known to many that thirty years or more ago this renowned physicist published an account of experiments which he believed tended to show that outside our scientific knowledge there exists a force exercised by intelligence different from the ordinary intelligence common to mortals. The fact that he is

now President of the Society for Psychical Research indicates that his interest and belief in such a force has not abated. Despite this, it must be reckoned an epochal date when the president of a society, numbering in its membership more pure scientists than any other in the world, has the temerity to assert that telepathy is based on the fundamental law that thoughts and images may be transferred from one mind to another without the agency of the recognized organs of sense—that knowledge may enter the human mind without being communicated in any hitherto known or recognized way. The speaker made no explanation of the foundations for his belief, and gave scarcely a reason or argument for their validity, save to point one or two analogies and to restate an hypothesis. This hypothesis, *viz.:* that the dendrites of neurons and the terminal arborizations of neuraxons do not actually touch, but are separated by a narrow gap which widens in sleep, while it narrows almost to extinction during mental activity, has been very widely discussed by neurologists and physiologists during the last few years. To-day, it is impossible that there exists six leading neurologists in the entire world who believe that the "movements of the neuron" is even a working hypothesis to explain neural and mental dynamics. This part of this noteworthy address will probably be read with trepidation and pain by all honest scientists, save a few who pose in the mantle and cling to the edges of the Society for Psychical Research.

COLONEL WARING'S DEATH.

IN the death of Colonel George E. Waring, New York City loses one of her great citizens; the country a man who can ill be spared in the presence of the great questions in civic and military sanitation that face our government at the present time. Modern applied sanitary science contains some extremely interesting and practical chapters that will keep the name of Waring alive during future generations. What he accomplished at Memphis, Tennessee, and in Central Park, New York, at a time when sanitary science was but just emerging into life, remain as monuments to his skill and intelligence. His organization of the street-cleaning department of the City of New York was enough of itself to make him famous and to give him a prominent place in the annals of public health at the end of the Nineteenth Century. By it he has conferred a boon upon the city the extent of which even its most intelligent and vigilant citizens scarcely realize. The methods he introduced will continue their benefits for future generations.

Though his age might well have justified him in asking to be excused from active and exacting duty in the public service, he accepted without hesitation the President's invitation to investigate the condition of Cuba and especially of Havana, with the idea of suggesting the sanitary measures necessary to provide healthful places of residence for American citizens and, especially, sanitary quarters for American troops, who will have to be maintained there probably for some years. He was returning home with the data collected that would be necessary for his preliminary report in the matter, when the first symptoms of his fatal illness developed. It seems almost like the irony of fate after his successful battle with yellow fever in other places that now when ready to put the finishing touches to the work by uprooting the evil at its very source and so prevent all future epidemics of the disease in our country he should be stricken down and, with resistive vitality lowered by age and recent exhausting work, prove an easy victim. All honor to him as a champion of humanity against dirt and disease.

His death leaves a gap which will not be easily filled, but the Government must face the great problem of the sanitation of our new possessions, and this latest sacrifice is but another forecast of what a cost of life it may involve.

PROFESSOR VIRCHOW AND THE UNITY OF LIFE—A PROTEST.

WE recently reviewed Professor Virchow's Huxley Lecture in that spirit of enthusiastic regard with which we are sure his distinguished English audience must have received it, and with which the medical world must ever welcome the great sayings of the father of modern pathology. This week we permit ourselves, in the reverential spirit of disciples of the man who above all others taught medical men to think and seek for themselves and to accept nothing on the *ipse dixit* of a master, to discuss some of the propositions it contains.

Professor Virchow thinks (we quote from the address as published authoritatively in the *British Med-*

ical Journal; as it was delivered in English we have the speaker's own words) that "In a medical school where the teaching is almost entirely concerned with human beings we might put this sentence at the head of the lesson: 'The organism is not an individual but a social mechanism.'" He said just before, "The life possessed by the higher organisms is not a single life. . . . Each constituent part of a living organism has its special life, its *vita propria*. . . . As regards materialistic construction man and the higher animals and plants are no unitary simple beings. . . . If they possessed but one single power which set all their parts in action it would be impossible to understand how the special kind of activity which each one of these organisms exercises in its individual way comes about. . . . How can a single power, whether we call it in the spiritualistic sense spirit, soul, spiritus rector, or, in the physical sense, vital force, or electricity, build up such diverse organisms? . . . The first requisite for a correct interpretation (if such a collective being is analyzed) is that one should *discard the fabled unity* (italics are ours) and should regard the single parts, the cells, as the factors of existence."

We have not quoted a series of connected passages because space forbids it; on the other hand, we have not, we can confidently say, wrested any of the sentences from their author's meaning in separating them from their context. The series of sentences quoted represents a materialistic view of man as a living organism which we feel sure is not shared by the majority of, at least, English-speaking medical men and scientists. These views will receive widespread circulation in our medical journals and will lead to false assumptions as to the stand modern medicine is taking in the matter, if they are allowed to circulate without a word of protest.

The human organism *is* "a social mechanism," all the cells of which are in health coordinated by that mysterious force we call life; not the multiple life of the individual cells but the unitary principle which, the moment previous to sudden traumatic death, made the now insentient mass of lifeless cells living, sentient, conscious, thinking man. We do not know *how* "a single power sets all the various parts", the multitudinous cells, in action, but we do know that man is a single simple being, with a single principle of life, and not merely a congeries of cells more or less fortuitously bound together.

Medical men generally (we speak at least for our English-speaking brethren) believe this because they believe in the existence of something beyond and above matter, spirit, and in the existence of a spiritual principle of life in man, the human soul. They have evidence for their belief in the existence of their own consciousness which is surely not a function of matter, in the realization of their powers of reasoning which is indubitably not merely material. The principle of life that originates these higher functions must be of such a nature as to produce them and must itself be superior to matter.

Modern science, and especially the sciences that are most closely related to medicine, are getting farther and farther away from the position that would explain all vital phenomena on merely materialistic, *i.e.*, chemico-physical grounds. Spontaneous generation is gone, thanks not a little to Virchow's own work. The supposed simple processes of endosmosis and exosmosis in metabolism and of simple oxidation in tissue waste and repair have given place to complicated intracellular processes dependent on essential cellular activity brought into play by that mysterious force called life. A very interesting commentary on this question of vital force and of the unity of organismal life from the physiologist's point of view may be found in "Vitalism," an article in the *Nineteenth Century* for September by Mr. Haldane, lecturer on physiology at Cambridge, England.

Science has been giving us the demonstration, too, that behind this vital activity in individual cells there is a force that makes for the conservation, and during the developmental period for the proper development of the *whole* organism. If in certain of the lower forms of life during the embryonic period, one-half of the cells that make up the embryo be removed, the other half will develop sufficiently to make up for the cells that have been removed and the resulting organism will be perfectly normal. In certain of the lower animals too, removal of a limb is followed by the growth of a member to replace it which exactly corresponds to the one that was removed. We have in these facts surely not the result of multifarious individual cellular activity but the evidence of a principle of life, higher

than mere cellular activity, pervading the whole organism coordinating cellular energy and providing for the protection and conservation of the *whole* being.

Professor Virchow himself says in this Huxley lecture, "The necessity for a single basis of all vital manifestations remains. It is a question which is not alone of great theoretical interest, but it has become an indispensable foundation for practical work and particularly for medical practice." Here is the keynote of the matter for the practical physician and for our present-day therapeutics. For changes in cells, at least as far as regards the gross alterations that constitute the only cell changes we know so far, we are able to do very little. Modern therapeutics is just beginning to make use of the products of cellular activity in order to restore or replace the functions of damaged cells. As yet, however, this form of therapy is extremely limited in application. Practically, all of our pharmaceutics is dependent on the principle that there is a single basis of life and that the organism is a compensatory mechanism. The results of this system of therapy, while not all that might be wished, have been such in the hands of our great practical clinicians as to justify the conclusion that there is a great truth underlying it.

The most striking thing in modern medical practice is the influence of mind over body, of vital force above and beyond any individual cellular activity, that must be reckoned with in all rational treatment of disease. Medical realization of the influence of this higher force has been growing clearer not dimmer in recent years. It is evident then, that the medical profession is on scientific grounds drifting away from, not toward any opinion that would deny the essential unity of organisms, especially of man.

ECHOES AND NEWS.

Smallpox at Norfolk, Va.—An epidemic of smallpox is announced at Norfolk, Va. Fifteen new cases were reported on October 31st.

The John Blair Gibbs Hospital.—The Government has very appropriately commemorated the sacrifice of the first American soldier on Cuban soil by naming the general hospital attached to Camp Hamilton at Lexington, Ky., the John Blair Gibbs Hospital.

Tetanus Recovery after Antitoxin Treatment.—The patient at Passaic, N. J., who suffered from tetanus and was recently treated by the injection into his brain of antitoxin serum continues to improve. He has become so well that it has seemed wise to apply skin-grafting to the injured leg.

A Public Hospital at Troy, N. Y.—The formal opening of the Samaritan Hospital at Troy was celebrated October 23d. This new hospital is modern and complete in every detail. One of the wise provisions connected with the management of the institution is that by which any private patient who enters the hospital has the privilege of choosing any medical attendant he desires, the hospital thus being free to the profession as well as to the laity.

Medical Society of the State of New York.—The Business Committee of this Society announces that the next meeting of the Society will be held at Albany, January 24, 25, and 26, 1899. The committee consists of Dr. Willis G. Macdonald, Albany, N. Y., Chairman; Drs. Edward B. Angell, Rochester, N. Y., and James M. Winfield, Brooklyn, N. Y. Members desiring to present papers will please notify the chairman of this committee.

Obituary.—Dr. Francis L. Haynes died from embolism of the brain at his home in Los Angeles, Cal., October 19, 1898. Dr. Haynes was graduated from the University of Pennsylvania in 1870, at the age of twenty years. After serving as interne in the Episcopal Hospital, Philadelphia, for eighteen months he began the practice of medicine in Philadelphia where he remained till 1887, when he removed to Los Angeles and became Professor of Gynecology in the University of Southern California, hoping that a change to a milder climate might improve his health, which had become impaired.

Dr. Guiteras to Go to Cuba.—It is generally understood that Dr. John Guiteras, the great yellow-fever expert, will resign the chair of pathology in the University of Pennsylvania at the end of the academic year and with his family go to Cuba. Dr. Guiteras has been tendered the chair of practice of medicine in the University of Havana. He will be accompanied by several other medical men of high repute who are interested in Cuban affairs. It is Dr. Guiteras' intention to enlarge the medical course at the University of Havana and place it on a footing with similar courses in this country.

Christian Science Malpractice.—The facts connected with the treatment of Harold Frederic by the Christian-Science woman prove to be more startling than the first reports indicated At the coroner's inquest the woman admitted that she had not diagnosed Mr. Frederic's "material" sickness; that she could not describe his physical condition, and that she did not allow her patients to follow doctor's orders. Moreover, she confessed to having taken her patient for a drive only a short time before he died, of heart disease, and did not know that it was the worse thing she could have done for him.

Medical Students in German-Speaking Universities.—In the last issue of the *German Universitätskalender* the number of students of medicine in the several universities using the German language is given as follows: Munich,

1416; Vienna, 1192; Berlin, 1090; Würtzburg, 680; Leipzig, 630; Freiburg, 552; Kiel, 428; Graz, 417; Erlangen, 414; Breslau, 364; Zürich, 340; Bonn, 337; Strassburg, 324; Griefswald, 323; Tübingen, 278; Marburg, 274; Heidelberg, 272; Geneva, 270; Königsberg, 249; Halle, 245; Giessen, 240; Göttingen, 225; Jena, 222; Berne, 189; Lausanne, 145; Basel, 141; Rostock, 99. Total, 11,376.

Mental Pressure in Our Public Schools.—President Schurman, in his recent address at the opening of the fall semester at Cornell University, makes the statement that the age of freshmen at entrance has been falling continuously for three years, although the standard of requirements for admission was at the same time continuously rising. "The average age of Cornell freshmen was nineteen years and eleven months in 1895–96, nineteen years and eight months in 1896–97, and nineteen years and seven months in 1897–98. This seems to show," continues Dr. Schurman, "that the high schools of the country are quite rapidly increasing in efficiency." It would be interesting and valuable to know also the relative physical condition of these youths compared with their predecessors.

Spread of the Bubonic Plague.—The sudden appearance at Vienna of the bubonic plague and its deadly work there, discussed editorially in our issue of last week, has centered no little interest upon the possibilities of its more widespread development. If it has awakened increased vigilance in quarantine circles it is well. A recent cablegram from St. Petersburg announces that the epidemic now prevailing at Samarkand—a large commercial city of Turkestan—is the true plague, and that the mortality is high. The arrival at San Francisco, October 28th, of a French vessel from Hong Kong, infected with bubonic plague is also reported, the captain and one seaman having died of that disease during the voyage, August 20th and September 20th respectively.

Medical Nomenclature.—Under this heading the *Medical Record*, October 29th, remarks: "To the reader or hearer who has some regard for accuracy in the formation and use of words such combinations as 'radiograph' is apt to give a shock. . . . . Of late the much more appropriate term 'skiagraph' has supplanted it to a great extent." The latter term was originally suggested in the MEDICAL NEWS, February 15, 1896, by Dr. Cattell, in one of the earliest accounts of the Röntgen-ray published in this country. The MEDICAL NEWS has consistently used the word since that date. It is gratifying to have the assurance that it is supplanting the monstrosity "radiograph" and that this tardy recognition of its merits by the *Record* gives earnest of the latter's influence in bringing it into more general use.

Sick Soldiers from Porto Rico.—The Massachusetts hospital-ship "Bay State" arrived at Boston October 28th from Porto Rico. The ship carried 133 on her sick-list, mostly men of the Sixth Massachusetts Regiment. Of this number thirty are very ill. Two men, Sergeant William E. Watters, Company E, of Framingham, and Paul T. French, Company M, of Milford, died at sea. Private French was buried at sea, and the body of Sergeant Watters will be turned over to his relatives. The United States Army hospital-ship "Missouri" arrived at New York October 29th from Porto Rico with 271 sick and wounded soldiers, most of them suffering from malarial fever, typhoid fever, or dysentery. L. Burton Bradish, Corporal, Company A, Third Illinois, and Henry M. Morrison, private, Company H, Fourth Ohio, died; the former was buried at Mayaguez, the latter at sea.

Effects of Electricity upon Plant-Life.—In the light of the views promulgated recently by Sir William Crookes it is interesting to note the results of some practical experiments demonstrating the fertilizing effect of electricity in plant-life. Dr. Lemström, aided by Baron Hisinger, a landed proprietor of Finland, has been engaged in experiments on growing plants since 1885. Six fields, each fifty meters in extent, were devoted to these experiments, three being subjected to electricity, and three used as control-areas. The benefit of the electricity was marked; there was found an increase in the seeds of at least 40 per cent.; in the roots from 25 per cent. to 75 per cent., depending on the kind of plant and on the nature of the soil; in beans 75 per cent., in strawberries and raspberries as high as 75 per cent., the time for their ripening being advanced at least one-third. Either the gases in the air are transformed by the electricity into ozone and nitric oxids, which, being heavy, fall down upon the plants and increase the activity of their vegetation, or the electricity induces the juices of the plants to ascend more rapidly in their capillary tubes. Though much has yet to be explained, the method is ready to be used for practical purposes. The author this summer carried out experiments in Finland on some especially interesting plants. Of these, the tobacco plant did not yield, in earlier experiments, to the favorable influence of the electric currents, through want of water.

Sanitary Report from Havana.—The following report for the week ended Thursday, October 20th, by the local inspector, Dr. Brunner, has been forwarded to the Surgeon-General of the Marine Hospital Service: The temperature for the past week has been intolerably warm; the rainfall has been excessive, especially during the last three days, when certainly more than five inches must have fallen, the downpour extending into the nights, which does not often occur here. The neglect of sanitary matters still continues; the streets and public markets reek with filth, and the paved streets need repairs to prevent the collection of storm water and surface filth. There were six deaths from yellow fever, which are three less than the preceding week; four of these deaths occurred among the Spanish soldiers. One of the deaths was credited to borras fever, which, in my opinion, is fatal yellow fever among the Cubans. There was a slight falling off in all the other fevers prevailing here and the total deaths show a decided decrease. The two deaths from beriberi occurred among the Chinese population. The American bark "Maryland" reported by letter and cable as being infected with yellow fever is still in port, but is ready to leave for Baltimore after pro-

ceeding to Tortugas for disinfection. While there are not many known cases of yellow fever, yet on account of the extremely hot weather and the continuance of the rainy season, I would recommend that the close quarantine season be extended from November 1st to November 15th.

Slept Fifty Days.—A case of somnolence occurred in England within the past year, in which the patient, a young naval officer, slept for more than fifty days. During the year preceding his long sleep his time had been spent in severe study and he had not allowed himself the proper amount of sleep. His year's work culminated in a severe competitive examination for position in the navy, in which examination he was one of the fifteen successful applicants. About a week after his examination he began to grow drowsy, and promptly went to sleep from which he could with difficulty be aroused. A couple of days later he sank into a calm, peaceful sleep, from which it was impossible to arouse him completely, and when aroused partially he would drop off again almost immediately into deep slumber. No evidence of uremia was discoverable, nor anything suggestive of catalepsy. His color was good during the entire period, his extremities warm, temperature normal, tongue thickly coated with light brown fur, and the pulse slow and feeble. There was no anesthesia or suggestion of headache. The knee-jerk was exaggerated, particularly on the left side, and ankle-clonus was sometimes present. The sleep was at no time "profound." Toward the end of his sleep he could be more easily aroused, took more nourishment, and began to gain in weight. When he awoke he had perfect recollection of all the events that had transpired up to the day he went to sleep, but none of anything that had been done to him during his sleep. He had to learn again how to walk and how to balance himself. He regained his coordination rather slowly, and at the end of four months after his awaking had not completely regained his ability to walk naturally. Two months later he had so far recovered as to attend to his duties on board ship.—*British Medical Journal.*

CORRESPONDENCE.

MEDICAL MATTERS IN CHICAGO.

[From a Special Correspondent.]

DRY-AIR TREATMENT OF TUBERCULOSIS—OFFICERS OF THE CHICAGO GYNECOLOGICAL SOCIETY—ACUTE CEREBRAL MENINGITIS—INFLATION OF BILIARY PASSAGES TO DETECT SITE OF STONE—TREATMENT OF TYPHOID FEVER—THE VALUE OF WIDAL'S TEST.

CHICAGO, October 31, 1898.

THE Murphy plan of treating pauper patients afflicted with tuberculosis of the lungs is to be given a trial at the new Charity Hospital which will be opened for the reception of patients at Dunning on November 1st. This institution is designed to put in practice the dry-air treatment for consumption, and will accommodate 450 patients. The object is to reproduce, as nearly as possible, the climate of Arizona and New Mexico. The County Board of Commissioners appropriated $60,000 for this hospital, and more recently $3000 more has been set aside to complete the work. Statistics show that $\frac{1}{11}$ of the deaths in Chicago are caused by consumption, and that $\frac{1}{8}$ of all of the deaths in the civilized world are due to the same disease. Among those who die between the ages of twelve and sixty years the cause in one-fourth of the cases is tuberculosis.

At the annual dinner of the Chicago Gynecological Society, recently held, the following officers were elected for the ensuing year: President, Dr. Nicholas Senn; vice-presidents, Drs. Thomas J. Watkins and Reuben Peterson; secretary, Dr. William H. Rumpf; treasurer, Dr. Addison H. Foster; editor, Dr. Charles S. Bacon.

Dr. Daniel R. Brower read a paper before the Chicago Medical Society recently on acute cerebral meningitis, in which he reported forty-six cases occurring in his own practice and that of others, with thirty-three recoveries and thirteen deaths. In the treatment a dark, well-ventilated, quiet room is selected. The patient's head is shaved and surrounded by ice-bags; leeches are applied over the temples; the pain is mitigated by morphin or antipyrin hypodermically; the temperature is reduced by cold sponging; the bowels are freely moved by calomel, and every day there is applied freely to the scalp a ten-per-cent. ointment of iodoform in lanolin. The difficulty of administering medicines by the mouth in these cases led him to adopt the treatment by inunction about fifteen years ago, first with mercury, without success, and then with iodoform, with some success. Absorption usually takes place promptly, so much so that he has been able to detect the iodin in the urine and saliva one hour after inunction. The amount absorbed cannot be very great, inasmuch as he has never seen the untoward effects that sometimes follow the use of iodoform in open wounds, although he has used as much as 10 grams (154 grains) of the drug in one case. He has suggested this treatment in consultations in at least a hundred cases, but has been able to learn of the results of treatment in forty-six cases only.

At a subsequent meeting of the Society, Dr. Weller Van Hook spoke of inflation of the biliary passages in operations for cholelithiasis. In a case of choledocholithiasis he had injected air into the biliary passages to demonstrate the site of the stone in relation to the other ducts and to enable him to pass metallic sounds upward and downward along the ducts. The air was injected by means of a small bicycle pump, which was attached to a rubber tube fastened into the gall-bladder by means of a metallic tip. The method may be applied to any operation upon the biliary passages, enabling one to determine the location, size, and relations of these passages; to map out the position and relations of a stone, and to demonstrate fistulæ and diverticula.

At a meeting of the Chicago Society of Internal Medicine, held October 19th, Dr. J. M. G. Carter presented a contribution on the treatment of typhoid fever, based upon a study of seventy cases. Before he began the treatment of these patients his observations had convinced him that the danger in typhoid fever lies in the pronounced exhaustion present in this disease. In an

attempt to find a scientific line of thought he has been guided by the knowledge first, that typhoid fever is a bacterial disease; second, that typhoid bacilli exist at all times and in nearly all places, but in varying numbers; third, that under certain conditions the number or activity of these bacilli, or perhaps both, may be increased; and, fourth, that the virulence of the disease depends upon the number or activity, or both, of bacilli in an individual case. A careful consideration of these facts led him to conclude that the treatment may be reduced to meeting three indications, only two of which are always of paramount importance: the maintenance of the patient's strength by proper nutrition and the removal of the cause and reduction of temperature. The determination of what diet is proper in a case of fever is of the utmost importance. The high temperature of the patient must be combatted with antipyretics. He has never used the Brand system of cold baths. Ordinarily he makes use of quinin or of some coal-tar derivative combined with a heart tonic, or tepid, cool, or cold water for bathing. Sometimes he combines the two methods. He gives aromatic sulphuric acid and tincture of digitalis combined throughout the entire course of the fever. He did not give salol, sulphocarbolate of zinc, salicylate of bismuth, or other antiseptic in his treatment of the first fifty-five patients, although he did administer aromatic sulphuric acid, and some of the severest forms of the disease he has treated were included in the group reported. Other remedies are given only as may be required to meet emergencies as they arise. A happy result of this treatment is a more rapid convalescence than is secured when over-feeding is not allowed, but the course of the disease is not abridged in many cases,

Dr. Adolph Gehrmann gave the results of Widal's test in the diagnosis of typhoid fever from dried blood-specimens. He gave an analysis of 340 examinations. His conclusions were: (1) that dried blood specimens give results sufficiently accurate for public-health purposes, contrary to the opinions of some writers; (2) it is the simplest means of obtaining and transporting material for examination; (3) the development of the method employed is of more importance than slight changes of technic, as regards accuracy of results; and (4) the test is not an early diagnostic sign, and is not generally conclusive before the end of the first week of the fever.

SOCIETY PROCEEDINGS.

NEW YORK STATE MEDICAL ASSOCIATION.

Fifteenth Annual Meeting, Held in Mott Memorial Hall, New York City, October 18, 19, and 20, 1898.

(Continued from page 576.)

THIRD DAY—MORNING SESSION.

The Secretary was instructed to cast the ballot of the Association for the following officers for the ensuing year: President, Joseph D. Bryant of New York County; vice-president, J. G. Hunt, First district; D. C. Moriarta, Second district; F. D. Reese, Third district; W. M. Bemus, Fourth district; secretary, M. C. O'Brien, New York City; treasurer, E. D. Ferguson, Troy. Council—Jno. P. Sherer, C. E. Fritts, L. J. Brooks, Delancey Rochester, Chas. E. Dennison.

The discussion of

INTESTINAL OBSTRUCTION

was continued by Dr. Frederick Holme Wiggin of New York in a paper on "The Technic of Operative Treatment of Intestinal Obstruction," a very complete paper, of which some of the practical points were as follows:

When volvulus occurs in the small intestine it is not only safe but desirable to draw the intestine out of the abdomen, taking care to keep it hot and moist by wrapping it in gauze or soft towels wrung out of hot saline solution. When an intussusception is the cause of the obstruction the tumor should be encircled below its apex by the finger and thumb and the sheath held a few inches lower down, while the apex of the tumor is pushed upward. Traction from above the tumor should not be employed. If the intussusception is irreducible, the following method, described by Maunsell, is recommended: A slit is made in the intussuscipiens and gentle traction is exerted on the intussusceptum until its neck appears outside the opening in the intussuscipiens. The base is then transfixed with two straight needles, armed with horsehair, and the intussusception is amputated one-fourth of an inch above the needle. The sutures are now passed through the invaginated bowel, caught up in the interior of the bowel, divided, and tied. The invagination is then reduced, and the slit closed. Thanks to modern surgery, most neoplasms causing intestinal obstruction can be removed, and naturally such a course is preferable to colotomy. Where it is inadvisable to resect the portion of bowel containing the growth, an incision, four inches long, should be made over this portion, in the direction of the fibers of the external oblique, and the bowel drawn upward until its mesenteric attachment is on a level with the external incision. A slit is then made in the mesentery and a glass rod is passed through, and iodoform gauze wound around the ends of the rod. The rod is left in position until adhesions have formed, when the gut is opened.

When the intestinal obstruction results from the pressure of a neoplasm external to the gut the new growth should be extirpated, but if this is not possible, a fecal fistula must be established above the point of obstruction. Gall-stones or enteroliths causing obstruction should be pushed a little upward or downward and then removed by an incision. The object of this is to avoid making the incision through the portion of the gut which is likely to have been damaged by pressure. When the gut is found to be gangrenous, in a case of intestinal obstruction, an end-to-end anastomosis should be done, and for this purpose Dr. Wiggin prefers his modification of Maunsell's method. The modification consists in doing away with the invagination and the slit. The portion of intestine to be extirpated is emptied of its contents by pressure. The portion to be removed is then isolated by clamps on either side, and a V-shaped incision is made, having its

apex in the mesentery. The mesenteric vessels are ligated before being cut, and the wound in the mesentery is sutured. After washing the divided ends of the bowel with hydrogen dioxid they are united by two sutures passing through all the intestinal coats, the first suture being at the inferior or mesenteric border, and the second directly opposite at the highest point. The third and fourth sutures are passed on either side half way between the first two. The other sutures are passed in the same way, the needle going from within the gut and piercing all the coats, then back through the peritoneal, muscular, and mucous coats to the interior of the other segment of bowel. The ends are then tied in the bowel. This process is continued until all the sutures but one or two are passed. For the latter, Lembert sutures are substituted. If the sutures have been properly inserted and tied, the peritoneum will now be turned in and the stitches hidden.

After the operation Dr. Wiggin thinks that the tendency is to give too little food and to give what little is allowed too frequently, so causing irritability of the stomach and loss of appetite. His rule is now even in intestinal cases to treat his surgical patients as medical ones, and if they are in good condition, with uncoated tongue, slight fever, and an appetite for food to let them have it in reasonable quantities. In his recent cases of end-to-end anastomosis he has put into the bowel just before inserting the final sutures of coaptation 2 or 3 ounces of saturated solution of sulphate of magnesia (McCosh's method) and has had excellent results. Patients present scarcely any disturbing symptoms on the days immediately after operation. In a very recent case, in which parts of the transverse colon and of the stomach were removed for malignant disease, the patient got along admirably with this expedient. Intravenous injection of normal salt solution quells the thirst and keeps the patient from being restless during the time it is not thought advisable to exhibit liquids.

DR. MARCEY of Boston, in the discussion of this paper, said that the hope for the improvement of the statistics of the surgical treatment of intestinal obstruction lies in early diagnosis and in improvement of the technic of intestinal anastomosis; neither the Senn's rings nor the Murphy button has solved the problem though it was hoped they would. Dr. Wiggin's method was certainly a step in advance. He himself employs a method that saves a good deal of time. He slits longitudinally each end of the bowel to be approximated so that it resembles the cuff or wristband of a shirt. This enables him to bring the ends together and unite them by a continuous suture along a straight line. There remains then to be closed only the longitudinal slits made in the ends of the bowel. This may be done by the Lembert suture. All abrasions of peritoneum and all roughness is covered in as such things inevitably lead to peritoneal adhesions as surgeons are learning by bitter experience at last.

DR. FARRINGTON of Boone County read a paper on

THE PASSING OF ALCOHOL

that led to some lively discussion on the subject of alcohol in medical practice.

DR. H. S. OPPENHEIMER of New York County read a paper on

EYE LESIONS IN SOME KIDNEY DISEASES.

The better prognosis of all eye lesions from kidney trouble that develops during pregnancy was dwelt upon. Even attachments of the retina in pregnant women not infrequently involute and readhesion takes place after labor. Amaurosis from acute nephritis during the infectious fevers also was dwelt upon. This toxic amblyopia sometimes with complete loss of vision develops suddenly and is most alarming to the patient. There are usually cerebral symptoms but nothing abnormal can be seen with the ophthalmoscope. Prognosis is usually good as regards short duration and ultimate vision.

DR. J. H. WOODWARD of New York County read a paper, entitled

SOME OBSERVATIONS OF GENERAL INTEREST REGARDING THE CAUSE AND MANAGEMENT OF CATARACT.

He insisted on the slowness and uncertainty with which senile cataract develops, and deprecated the telling of patients as soon as an incipient cataract is manifest that they have such a hindrance to vision that will gradually get worse and finally necessitate operation. He quoted from his case-book cases from every decade after thirty years of age, where cataracts had remained absolutely unchanged for from five to eight years. He thinks that constitutional treatment is of value in early stages in preventing rapid development.

AFTERNOON SESSION.

DR. WM. D. GRANGER of New York County read a paper on

INSANITY FOLLOWING SURGICAL OPERATIONS.

A number of such cases are to be found reported in the literature, but greater attention in giving details of the patient's previous life must be reported if the cases are to be of any value in a statistical sense. Predisposition is the all important factor. Heredity being the most active predisposer, certain critical periods, especially of the sexual life, as puberty and the climacteric, seem to be predisposing agents. It is not the gravity of the operation that is the most active factor, for a notable number of cases of insanity have developed after the extraction of a tooth. Eye operations furnish a good proportion too. Most mental aberrations follow operations upon the genital tract in females. Careful inquiry should be made beforehand as to whether the subjects for operations are predisposed by previous mental trouble or by heredity to such accidents.

DR. C. C. FREDERICK of Buffalo, in discussion, spoke of the difficulties of getting such details of patients' lives and heredity. Patients themselves are sensitive, and friends will often say nothing of the patient's neuropathic tendencies, so that the doctor finds out only after insanity has developed that the patient had been in an asylum before.

DR. FREDERICK then read a paper on

THE PREPARATION OF CATGUT.

Ligatures of silk and silkworm-gut are always liable to be infected and cause troublesome, even dangerous, sinuses. Now that catgut can be prepared so as to be absolutely sterile and yet retain its tensile strength, the use of silk is almost unjustifiable. He demonstrated spools of catgut prepared by the formaldehyd (3 per cent.) method, guaranteed to stand boiling well, whose strength was thoroughly tested by those present. This gut can be chromicized to any degree and so its absorption regulated. A feature of the method is that but one row of turns of gut is on each spool, so that all of it is equally exposed to the formalin, and the free ends are tied together across the spool to prevent shrivelling.

DR. THOMAS J. HILLIS of New York County read a paper, entitled

WHAT TO DO TO BE SAVED,

being the conclusion of the inquiry into the abuse of medical charity. It was listened to with a great deal of interest, tinged with an amusement that was plainly sympathetic. Some idea of the drift of the paper may be gathered from the following characteristic quotations from it:

"The authorities of the hospital of to-day have forgotten the real mission of that institution; that its place is only as a dispenser and vender of medical charity."

"The transformation of the hospital from a purveyor of charity to a colossal corporation controlling the medical market and freezing out the general practitioner, is typical of this age of trusts and monopolies."

"Since the good old days when the word 'Doctor' expressed any value in hospital parlance, changes have come with a vengeance; the hospital has divorced itself from the doctor except to make him the tool with which to accomplish its purpose—a stepping-stone to advance its interests."

"What is the motive of the surgeon in working for nothing for a gigantic business concern that could well afford to pay him for his services?"

"The situation as it is: The governor in the saddle and the volunteer corps, the visiting staff, sullen, and mutinous."

"The day the hospital reached its majority and set up a household of its own, it should have crowned its entrance into manhood by paying every man, in whatever capacity attached to the hospital, the market value of his services."

"The old notion that surgeons and physicians should work for nothing for rich corporations styling themselves hospitals and who wear the trade-mark, charity, to deceive the unwary, is about exploded."

"The handwriting on the wall is becoming apparent; the peril of the governor is growing more and more imminent."

DR. F. W. HIGGINS of Cortlandt County read a paper, entitled

SENILITY.

He insists on the distinction between senility and senescence, between the gradual expansion of Nature's forces that constitutes the "natural disease of all life," and that degeneration of the cellular elements of the organism, often precocious, usually brought on by abuses of which alcoholism is one of the most prominent. Senility does not constitute a contraindication of operations, but senescence does, no matter what the age of the patient determined from his years.

DR. THOS. F. REILLY of New York County read a paper on

THE TECHNIC AND USE OF SALINE INFUSIONS.

He demonstrated the funnel, tube, and cannula for intravenous injection and dwelt on its usefulness. The intravenous injection of a pint or more of warm normal salt solution now constitutes the best remedy for surgical shock, for exhaustive hemorrhage, for uremia (some blood being taken away if deemed advisable before the injection, this method being what the French call washing out the blood), for diabetic coma (the benefit reported from the injection of bicarbonate of soda being probably due to the salt solution); in all serious toxemias, whether digestive in origin, or septic, or due to the ingestion of some vegetable or mineral poison; in acute suppression of urine, and in all conditions of lowered blood-pressure, also in apparent deaths from electricity and the like.

After the discussion of Dr. Reilly's paper the Association adjourned.

NEW YORK ACADEMY OF MEDICINE.—SECTION ON GENERAL MEDICINE.

Stated Meeting, Held Tuesday, October 18, 1898.

THE Chairman, DR. LOUIS FAUGERES BISHOP, read an address, entitled

THE EVOLUTION OF SCIENTIFIC MEDICINE.

He said in part:

The fact cannot longer be ignored that great changes have taken place in the economic relations between physicians and the public. It has long been apparent that as a means of earning a livelihood and of winning a desirable position in a community, the profession of medicine does not offer the inducements to us that it offered to our forefathers. It would seem that the work of the average man has become more definite and clearly defined. We have come to do, each of us, some particular branch of our art better than in former times. In other words, the physician and surgeon has become more of an artisan and less of an artist. The artist constructs from his imagination—he idealizes. The artisan performs a definite work from carefully drawn plans. Even in departments of medicine that it would seem impossible to render scientific, such as mental diseases, the classification has advanced and recorded experience been accumulated until even the alienist can work according to rule.

But the evolution of the profession has also been affected by forces from without. The relation of the physician to the community has been profoundly modified by the general progress of knowledge and the extension of science and learning to so many fields of hu-

man activity. The number of professions in the true sense of the word has been enormously extended. The management of special commercial enterprises, such as railroads, electric systems, great financial corporations, and manufacturing companies, is no longer entrusted to chance employees, who have acquired skill merely through experience, but is conducted by persons especially trained in engineering and technical science. Professional training has become so diversified that the physician finds himself only one of a great many who are set apart to do a particular work because of special education. In the beginning the trades and business were far removed from science and the systematic improvement which comes through development along the lines of exact observation and inductive reasoning. Medicine also was involved in superstition and supported by authority rather than reason. As time has gone on the conduct of all human affairs—commercial, social, and even religious, has come under the dominion of the scientific tendency of the age which leads to simplification of method and organization of effort. At the same time medicine has thrown off mysticism, secresy, and reliance upon authority. So the public at large and physicians as a class have come near together, and the physician finds himself one of the large number of specialists and subservient to much the same laws as the others. As a laborer, he must find a market like his friends, the electric engineer and the rest, and must be governed by the same laws of fitness, supply and demand. Pressure of circumstances will compel him more and more to conduct the business side of his work in conformity with scientific business methods. In fact, to be unbusiness-like is to controvert the order of the just relations of man to man. Business in its best development is more highly moral than many a system of theology.

A great disturbing element in the business relations of physicians is philanthropy. The physician has more opportunities than others to exercise this faculty, and he also must be acknowledged as having more chances as an individual for gain by the wrongful exercise of the privilege of gratuitous service. He benefits himself but injures the business possibilities of other members of his profession. The same selfish principle is seen in the commercial world when large department stores sell without profit a class of merchandise which they do not care to handle except to induce crowds to come to their bazaar but which represents the means of livelihood of a large number of small shopkeepers. In this way, for the sake of prestige and experience, the older physician may injure the younger man, as witness the hospital and dispensary abuse. But fortunately philanthropy has not escaped the modern scientific fact that charity must be controlled by fixed principles and not left solely to the impulse of the emotions. Organization cannot long be deferred. Philanthropy is seeking more aud more the guidance of principles and facts developed by scientific method in observation and experiment.

The tendency in America is to give up all sects in medicine and allow physicians to choose their professional associates purely on the ground of integrity and personal preference. This liberal and scientific spirit has found its chief growth in New York State with the result that the controversial side of medicine has been abandoned for the scientific. New York may well be regarded as the center of influence of a modern school of scientific medicine, and a monument has already been raised to it in the amount of good work in investigation and analysis which has been done. The modern school of scientific medicine relies for its recognition and support upon a public educated in modern philosophy, a public dominated by the scientific spirit of a scientific age. It claims as an advantage that medical knowledge should be open to any curious seeker and that many medical facts should be of the common knowledge of the people. The public has already acquired that little knowledge which is so dangerous. It will not give it up. Our only salvation is to go boldly forward and educate the masses to a point where they themselves can discriminate between knowledge and imposition. The enemies of medicine have already entered upon a flank movement and the newspapers are blackened with advertisements of serums, extracts of organs and germ-killers, some of which assume the names of great discoverers. This movement of charlatanism was only to be expected and must be met by training the people to distinguish between science and fraud.

DR. R. H. CHITTENDEN, Professor of Physiological Chemistry in Columbia University, then read a paper on

THE RELATION OF CHEMISTRY TO PRACTICAL MEDICINE, AND SOME OF THE METHODS AVAILABLE IN THE DAILY WORK OF PHYSICIANS.

Physiological chemistry began to occupy a proper place in the scheme of medical studies only when the first independent laboratory was established in the Strassburg University twenty years ago. Since then every new fact which the laboratory has brought to light has added something to the fund of knowledge which is of practical value to the general practitioner, and the advance in the application of chemistry, physiology, and pathology has been so great as to warrant the expectation that further progress in scientific medicine will be along chemical lines in future. It has been shown that micro-organisms are not directly responsible for the ills which they produce, and that the characteristic symptoms are but the outward manifestations of the physiological action of the specific substance produced by the growth and multiplication of these organisms within the tissues of the body. It is now known that the Loeffler bacillus produces a soluble poisonous substance of a proteid nature which, when injected, will produce the characteristic symptoms of diphtheria and death. The production of an antitoxin which owes its antidotal action to chemical substances has been made possible by combined chemical and physiological study. According to Ehrlich the diphtheria toxin is a single definite compound with definite physiological and antitoxic properties as its origin only; it is instable, and the neutralizing power of a fatal dose varies greatly in different toxins. The latter readily deteriorate. Chemistry has shown that the growth of both pathogenic and non-pathogenic micro-organisms is accompanied by the devel-

opment of proteolytic enzymes, which are responsible for the soluble proteid products which result. The most prominent of these are albumoses or proteoses, and resemble those formed by the proteolytic enzymes of the digestive juices, which are toxic when introduced into the circulation. The soluble products of digestion when introduced into the blood-current are rapidly eliminated through the kidneys as are other poisons. In the decomposition of proteids by ordinary digestive fluid, enzyme, there takes place a progressive hydrolytic cleavage in which the first formed products (primary proteoses) become secondary products (secondary proteoses), and finally are transformed into true peptones. As a rule, the primary are much more active than the secondary products. The same thing occurs in the zymolysis, produced by many pathogenic micro-organisms. A corresponding hydrolytic cleavage results with the formation of a more or less toxic substance, one formed from the other by successive hydration, and accompanied by changes in toxicity or physiological power. All pathogenic bacteria produce a row of chemical substances possessed of more or less toxicity, to which are due the characteristic symptoms of the disease.

One can no longer doubt the existence of a row of chemical substances elaborated by the various ductless glands, such as the thyroid, which exert a controlling influence over the nutritional processes of the body, preventing the formation or counteracting the effect of powerful toxic substances. There is evidence to prove that chemical substances of undoubted physiological power are contained in the internal secretion of the thyroid, suprarenals, hypophysis cerebri, ovaries, testicles, etc.

The practical value to the physician of the chemical study of food, urine, and feces, as bearing upon the general problem of nutrition, cannot be overestimated. Quantitative analysis, in order to ascertain the true nutritive value of food and the extent of metabolism, will prove of inestimable value, and afford a basis for accurate diagnosis in questionable cases. It is to be hoped that the time will come when the same amount of thought as that given to the prescribing of medicines will be devoted to determining the exact nature and composition of food. Kjeldahl's method is simple and accurate in determining the nutritive value of the proteid and albuminous foods by detecting the amount of nitrogen present.

It is interesting to note the different forms in which nitrogen is eliminated in the urine, and much may be learned in this way. The quantitative method of Hopkins will determine sufficiently for clinical purposes the amount of uric acid excreted.

It is now known that uric acid has an origin quite apart from urea. Kossel has shown that true nuclein yields on decomposition a row of xanthin bases which contain an alloxin group and an urea group, and uric acid is an alloxin body. Foods which contain nuclein increase markedly the output of uric acid, and the continued excretion of uric acid during prolonged periods of fasting is largely due to katabolism of the nuclein-holding cells of the organism. The great increase in the excretion of uric acid in leucemia is undoubtedly due to the destruction of leucocytes which are rich in nuclein.

In determining the presence of urea with sodium hypobromite, it should be borne in mind that the latter decomposes other nitrogenous constituents as well as urea.

Of creatinin but little is known except that it increases under a meat diet.

Both leucin and tyrosin are pathological constituents of urine, and are the normal products of pancreatic digestion. They appear in the urine whenever the functional activity of the liver cells is interfered with, but are not pathognomonic of acute yellow atrophy of the liver as has been supposed. These substances should be sought for in the urine in cases of jaundice.

The presence of melanin does not necessarily point to the existence of a melanotic tumor.

Originally it was thought that the diazo-reaction of Ehrlich was pathognomonic of typhoid fever, and Ehrlich believes it to be of clinical value, but it has been shown that chemogen, the cause of the reaction, is found in other febrile diseases, and particularly in pulmonary tuberculosis.

Indican, which ranks first among the normal chemogens of the urine, is the product of oxidation of the indol formed in intestinal putrefaction. Micro-organisms in the intestinal tract are alone responsible for the formation of indol and its subsequent appearance as indican in the urine. Consequently the amount of indican found in the urine will indicate the extent of intestinal putrefaction. Indican is also present in the urine in nearly all cases in which there is hyperacidity of the gastric juice.

The presence of acetone and diacetic-acid in the urine is of special significance to the physician, for they owe their origin to the breaking down of the proteid matter of the tissues, and are, therefore, conspicuous in cases in which inanition is marked.

In testing for sugar the Bottger-Allmen-Nylander test should be employed in addition to the Fehling-test. The phenylhydrazin test is absolutely reliable and unerring.

The tests usually employed to detect albumin in the urine merely indicate the presence of albuminous matter without reference to the character of the proteid. Careful examination should determine this.

Ewald's test meal in gastric indigestion furnishes another example of the intimate relation between chemistry and practical medicine, the determination of total acidity, the relative proportion of free and combined hydrochloric acid, and the presence of lactic or other organic salts, now being made by various chemical tests.

Physiological and pathological chemistry are closely allied to physiology and pathology. The normal must be fully understood in order that the significance of the abnormal may be appreciated, for the dividing line is exceedingly thin and wavy. Many of the deviations from the normal which are the forerunners of disease, may be made clear by chemistry. It is to be hoped that the intimate relation which chemistry bears to scientific medicine may be more fully appreciated, and that the use of the many practical methods which chemistry offers as an aid to diagnosis may become more and more extended.

DISCUSSION.

DR. BEVERLY ROBINSON: Much as I desire to express some views upon the subject of the relation of chemistry to practical medicine, I think it would be wise for me to decline to do so because I am not a chemist. I know very little about the chemistry of to-day, and I am not ashamed to say so for I believe the same is true of pretty nearly every practitioner of medicine. Fortunately for us, there are a few exceptions—men who have been able to combine with the art of medicine a great deal of scientific attainment. I do not claim to be such. I would like, however, to make some remarks in regard to why the practitioner knows little or nothing of chemistry. At the College of Physicians and Surgeons it is not necessary that a man know chemistry before beginning the study of medicine; therefore, unless he has been fortunate enough to have some preliminary training, he must get the best chemical knowledge he can during the first or second year of his college life. Now, the time is short and there are other things to learn besides chemistry, and it is pretty hard work. A man has no time for amusement and but little time for the exercise upon which his health depends. No one will deny that it is important to have a wide chemical knowledge, but the fact remains that it is impossible to do more than a certain amount of work during a certain number of hours. It would be wise for colleges to insist upon men receiving a preliminary training in physiological and pathological chemistry before beginning the study of medicine. So much for the colleges. Now for the hospitals.

I for one acknowledge that I, to-day, have to learn much from younger men—the hospital interne. I have a great respect for these young men, for they know a great many things which I do not know. I believe these young men should have the opportunity of perfecting themselves in bacteriology and physiological and pathological chemistry. I would have endowed laboratories in every hospital in the country with a competent man at the head of each. I certainly think that scientific research should be encouraged, and this can best be accomplished by the endowment of laboratories. I want it distinctly understood, however, that I, as a practitioner of medicine, do not propose now or in the future to allow any chemist or bacteriologist, never mind how wise, to tell me that he is to control the situation. I believe and always have believed that clinical medicine above everything should control all along the line. Let the chemists and bacteriologists bring their acquired facts to those of us who have made a life-work of the study of disease—it is for us to hold the fort. These men should not think that their varying science—for it is varying—can make up for years of clinical experience. And yet I do not want you to believe that I do not fully appreciate the immense advantages which have been gained by scientific research. I realize all that we owe to bacteriology and to chemistry.

DR. W. H. THOMPSON: When I was asked to come here to-night and take part in this discussion, I was at a loss to know what I was expected to talk about because of the fact that the subject practically covers the whole field of medicine to an extent which only those who pay attention to the great problems of medicine can appreciate. Take for instance the question of infection. It was a great step when chemistry discovered that this was not due to direct contagion. Then we heard of bacteria and plasmodia, and this explained the period of incubation and the development of infection by a series of time-limited processes. It also solved the still greater problem as to how these processes resulted in the proliferation of the infecting agents. It explained why different persons exposed to the same infection did not all fall a prey to it, because of the different nature of the soil on which the seed fell, and, finally, it explained that the disastrous effects which they produce are due to the products which they form. The practical physician wishes to know all he can about these subjects.

The author has discussed the methods of discovering certain ingredients of the urine, but can he promise us that chemistry will soon be able to come to our aid in answering the exceedingly puzzling questions in connection with uremia? I have failed to get a single hint from him on this subject. I know of nothing more difficult to understand than the kidney. One can remove two-thirds of both kidneys and they will secrete more urine and urea than before. If three-fourths of both organs are removed there is still an increase in the amount of urine and urea excreted, but this will be followed by emaciation and death. How can this be explained. Would you say that dropsy is due to a disorganization of the kidneys in a patient who has been passing a great deal of urine? How do you explain those cases in which the kidneys are not able to send a drop of urine to the bladder on account of, say, impaction? You will find it difficult when called into consultation to explain to the attending physician that the patient is sure to die, but will die without any symptoms or uremia—no vomiting, no convulsions, and with no albumin in the urine. Such patients die of asthenia as do animals who have had their ureters tied off. Chemistry has not yet given us an explanation for this.

Again, what is the significance of pale urine? It is easy to say that it is a sign of a nervous, hysterical condition. Others say that it is a pronounced sign of structural changes in the kidney. I always regard pale urine as a serious symptom in diabetes.

In regard to auto-infection, my experience has taught me to look upon intermittency as a sign of auto-infection. An epileptic or a person who suffers from periodical attacks of migraine might be brought before the best neurologists in the land, and they would not know that the first was an epileptic, unless he fell at their feet in a fit, or that the second was periodically prostrated by the most intense headaches. These intermittent nervous affections, which are characterized by absolutely no sign of their presence during the intervals between the attacks, are fundamentally different from affections due to structural changes. These nervous explosions, convulsions, attacks of asthma, migraine, etc., are explained by poison—auto-infection. I am satisfied that a further elucidation of this subject is to be found in the direction of chemistry. We cannot lay too much importance upon

chemical examination of the urine and contents of the stomach and intestines. I hope we will all take to heart what Professor Chittenden has been telling us about the gastric reactions. These are of especial value in typhoid fever.

I am gratified to hear Professor Chittenden lay emphasis upon the presence of indican in urine. A friend of mine has discovered that the administration of ether has a most disastrous effect upon the kidneys, very different from that which follows the administration of chloroform. Perhaps the presence of indican in the urine has something to do with this. In any case it should be recognized as a signal of danger.

DR. MORRIS MANGES: I regret that I did not hear the paper, but from what has been said in the discussion I infer that the relation of chemistry to diseases of the stomach has been referred to by the author. There is no organ more indebted to chemistry than the stomach. The analin dyes began to be used for testing the gastric juice less than twenty years ago. The reason why the general practitioner pays so little attention to intestinal chemistry is because he thinks the subject too complicated for him. In reality it is very simple, and the various tests can be carried out by anybody. Nothing is easier than the analysis of the contents of the stomach. A specialty should not be made of diseases of the stomach which belong to the field of the general practitioner as much as do diseases of the lungs, heart, and liver. If the schools would devote to the study of physiological chemistry one-half the time they give to the routine study of anatomy, and if students were compelled to study test-tube reactions instead of tracing the course of nerves and arteries—which are at once forgotten and can always be referred to in the books—physicians would be better able to practise medicine.

DR. ACHILLES ROSE: It seems to me that it would also be well to study the chemistry of respiration. As you all know, tuberculosis has been treated by inflation of the rectum with carbonic-acid gas, and it has been found that although a cure could not be effected, many of the symptoms were relieved by this treatment. No effect was produced upon the bacillus, but the patients coughed less, had less fever, and the general condition improved. This result is explained by chemistry. When the rectum is inflated with carbonic-acid gas the latter is introduced into the venous system, and is eliminated by the lungs. According to the law of diffusion the more carbonic-acid gas eliminated the more oxygen descends. This exchange of gas takes place in the alimentary canal, with the result that the tissues are enriched with oxygen. I have recently employed with good effect inflation of the rectum in a girl of sixteen suffering from chorea. Many things of therapeutic value may be learned from a study of the chemistry of respiration.

REVIEWS.

DISEASES OF WOMEN: A MANUAL OF GYNECOLOGY. By FRANCIS H. DAVENPORT, M.D., Assistant Professor of Gynecology in the Medical Department of Harvard University, Boston. New (third) revised and enlarged edition. Philadelphia and New York: Lea Brothers & Co., 1898.

IN this enlarged edition of his popular book, Dr. Davenport has embodied the medical treatment of gynecological diseases as well as the surgical. The size of the volume precludes the possibility of pathological discussions and of descriptions of rare diseases, but, as heretofore, the work stands as one of the best, and by this we mean most lucid and scientific of the manuals which treat of the diseases of women. As a working-book for the student or the general practitioner there is none better. The book is profusely illustrated and handsomely printed.

A TEXT-BOOK OF PRACTICAL THERAPEUTICS, with Especial Reference to the Application of Remedial Measures to Disease and Their Employment upon a Rational Basis. By HOBART A. HARE, M.D., B.Sc., Professor of Therapeutics and Materia Medica in the Jefferson Medical College, Philadelphia. Seventh edition. Philadelphia and New York: Lea Brothers & Co., 1898.

THE necessity, within a year, of issuing a new edition of this work, now in its eighth year of life, is sufficient evidence of its worth and its popularity. As heretofore, the first part of the book deals with drugs and their therapeutic applications, as well as with therapeutic measures of other kinds, including baths, enemata, feeding, infusions, mineral springs, and climate. The second half of the book is devoted to a consideration of diseases, with a discussion of the drugs suitable for and indicated in the various ailments and their complications.

In the present edition the author has brought the book thoroughly up to date, and has made the preparations of drugs conformable to the British Pharmacopœia as well as to that of the United States. We can, therefore, assume that his work will soon meet a popularity on British soil second only to that which it enjoys in this country. A number of new illustrations have been added. We shall not be surprised to see at an early date an eighth edition of this deservedly popular book.

OUTLINE OF PRACTICAL HYGIENE. By C. GILMAN CURRIER, M.D. Third edition. New York: E. B. Treat & Co., 1898.

THE book before us treats of a subject which evidently has been considerably neglected in several quarters if what we hear in regard to the selection and the health of military camps be true. A few words, such as found upon page 40, if acted upon would have saved many lives. The author here states in the chapter on soil and climate: "If camping out, the site should be dry, and not have water near the surface. . . . . Moist river bottoms and valleys are not to be chosen for camping-grounds." And further, on page 41, "Wherever one goes, it is important to see that the *water-supply* is very free from chances of contamination." There are many points contained in this work as important as those cited above which would be of benefit to health-officers and persons at the head of sanitary departments.

The chapters on heating and ventilation are of particular interest in view of the approach of winter, the season in which our homes are more or less in an unhealthy state owing to the erroneous methods employed.

Dr. Currier has incorporated in his book all of the most important points to be considered in public hygiene, and its perusal might be recommended to the medical profession as well as to the general public. A complete index completes the work.

A CLINICAL TEXT-BOOK OF MEDICAL DIAGNOSIS FOR PHYSICIANS AND STUDENTS. By OSCAR VIERORDT, M.D., Professor of Medicine at the University of Heidelberg. Authorized Translation by FRANCIS H. STUART, A.M., M.D. Fourth American, from the fifth German, edition. Philadelphia: W. B. Saunders, 1898.

AN extended notice of the fourth edition of this widely known book on medical diagnosis is scarcely called for. The pioneer in works of this character, Professor Vierordt's book has long held its own, and, during the ten years which have elapsed since it was first published, it has become a favorite with teachers and students as well as with the great bulk of the medical profession. It is a perfect storehouse of information on clinical and laboratory methods of examination and in this edition has been brought thoroughly up to the latest accepted teachings. We note especially that the chapters dealing with the examination of gastric contents, the nervous system, and the microscopic examination of the blood have been revised and enlarged. The translation has been admirably made, retaining the force and virility of the original without a sacrifice of clearness. The typographic appearance of the book leaves nothing to be desired.

A TEXT-BOOK OF MATERIA MEDICA, THERAPEUTICS, AND PHARMACOLOGY. By GEORGE FRANK BUTLER, Ph.G., M.D., Professor of Materia Medica and Clinical Medicine in the College of Physicians and Surgeons, Chicago. Second revised edition. Philadelphia: W. B. Saunders, 1898.

THE wisdom of the publisher is sometimes greater than that of the critic. We did not believe when this book passed through our hands two years ago that it would grow into a lusty youngster; we were inclined to think that its faults so overbalanced its virtues that it was not long for this life. But it seems we were prognostically wrong. The second edition, somewhat amended, lies before us. The author still uses the almost homeopathic phrases, "disease medicines" and "symptom medicines," whatever these may be, the same delusive illustrations are found scattered through the text and the same hazardous statements are here and there met.

But the book has much in it that is good. Especially is this true of the chapter on serum-treatment. Most of the text is in harmony with accepted teaching and as a text-book for the student it is safe. The make-up of the book is handsome, indeed. But we wish we could assist in revising the text when a third edition, which we hope may be necessary, shall appear.

A GUIDE TO THE CLINICAL EXAMINATION OF THE BLOOD. By RICHARD C. CABOT, M.D. Third revised edition. New York: William Wood & Co., 1898.

DR. CABOT'S book must have hit the mark, for within two years a third edition has been demanded. We said when referring to the first edition, "it is a well-conceived, well-written, almost complete, hand-book," and we have nothing to retract. It is better now than it was two years ago for it contains most of what is new, and all that is good, of the discoveries in this branch of clinical medicine since the first edition was written. There are descriptions of Fliner's tintometer and hemoglobinometer, a description of Müller's blood-dust, the test by anilin colors of diabetic blood and blood examinations in some of the infectious diseases. We regret to find that the author still insists on holding the cover-glass with his fingers instead of with forceps; yet this is a mere detail.

The book is one of those one can heartily commend to every one who wishes to study the blood in a scientific spirit. It is a thoroughly scientific, thoroughly modern work on an important subject.

THERAPEUTIC HINTS.

For Diabetes Insipidus in Children.—The following prescriptions are recommended by MONTI.

1. ℞ Quininæ sulphat. . . . gr. xx
   Zinci sulphat. . . . gr. v
   Sacchari . . . . ʒ iiss.
   M. Div. in chart. No. XXX. Sig. Five powders daily.

2. ℞ Liq. potassii arsenitis } aa . . ʒ i.
   Tinct. valerianæ }
   M. Sig. Five to ten drops three times a day.

3. ℞ Chloralis hydrat. . . gr. xvi–xxvii
   Syr. acaciæ . . . ℥ iv.
   M. Sig. Three or four tablespoonfuls a day.

The diet should be restricted to vegetables and milk or milk alone. Sweetened or salted foods should be avoided. Hot baths, moderate exercise, and mineral purgative waters when indicated are further noted for the course of treatment.

For Infantile Chorea.—

℞ Acidi arseniosi . . . . gr. iss
Aq. dest. . . . . ℥ iii.
M. Sig. From one-half teaspoonful to seven teaspoonfuls a day.

According to FILATON this is better tolerated than Fowler's solution or the arsenate of soda. Begin with ½ teaspoonful for a child of four to ten years, or 1 teaspoonful if over ten years, augment the daily dose during the first week, diminish it during the second, and so on. The maximum daily dose for the younger child is 3½ teaspoonfuls, for the older, double this quantity. If not borne by the stomach Filaton advises the use of Fowler's solution hypodermically in doses of $\frac{1}{24}$ to $\frac{1}{12}$ of a grain.

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXXIII. NEW YORK, SATURDAY, NOVEMBER 12, 1898. NO. 20.

ORIGINAL ARTICLES.

A NEW URINARY DISINFECTANT.

BY REYNOLD W. WILCOX, M.D., LL.D.,
OF NEW YORK;
PROFESSOR OF MEDICINE AND THERAPEUTICS AT THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND ATTENDING PHYSICIAN TO THE HOSPITAL; VISITING PHYSICIAN TO ST. MARK'S HOSPITAL.

THE problem of how to disinfect the urine has long been a subject of careful study. Many substances lauded in the text-books are disappointing when put to the test either in the cystitis of prostatic hypertrophy or in that of vesical fistula. The latter is the *bête noire* of the surgical wards until such time as the site is in readiness for operation. In the first instance, indeed, while operative procedures (castration, cystotomy) give a fair measure of success, not all are curable by them nor indeed are surgical palliative measures (irrigation, catheterization at regular intervals) entirely free from danger. There is, then, a very large proportion of these sufferers who should not be subjected to local treatment, either because they die if it is attempted, or it is attended by sufficient risk to contraindicate it. To render an acid urine alkaline is not a matter of much difficulty for all salts of the metals potassium, sodium, lithium, and calcium will do this; even the tartrates, citrates, and acetates—for they are eliminated as carbonates, but to a less extent. Even nitric acid, through its conversion into ammonia, may do this. The only question is that of dose and what particular salt the stomach of the patient will tolerate. Litmus paper informs us when the result is accomplished. The generally received opinion is that an excessively acid urine is irritating. While this in a measure is true, it is also a fact that an alkaline urine can be irritating also. Reaction then, considered as such, does not entirely determine the bland or irritating properties of the urine.

In rendering an acid urine alkaline two distinct propositions are involved: (1) Drugs which of themselves alter the reaction, and (2) those which inhibit or prevent its decomposition. The latter need not be dependent upon the former. Of drugs which prevent the urine from decomposing may be mentioned the benzoates, the salicylates, those containing arbutin, as uva ursi and chimaphila, and certain drugs containing volatile oils as copaiba, cubeb, sandal wood, and others. Arbutin, by its decomposition in the kidneys, breaking up into glucose and hydroquinone is fairly efficient, yet it is generally believed that administered as such it is useless. Hydroquinone is undoubtedly set free in the kidneys, else poisoning would take place more frequently. The volatile oils, often of value, are likely to disorder the stomach and some substances containing them, as copaiba, give rise to disagreeable exanthemata. The free use of the salicylates presupposes the fact that the integrity of the kidneys is established; of the benzoates, mention will be made later. When it is remembered that all of these urinary antiseptics are generally administered in conjunction with urinary sedatives, as some of the *solanaceæ*,—belladonna, hyoscyamus,—it is clear that full reliance is not placed upon their antiseptic action.

Of drugs which render an alkaline urine acid, hitherto the benzoates have held first place, the influence of salicylic acid being slight in comparison. It is also true that large doses of citric and tartaric acid, of citrates and tartrates, have a similar effect. At another place I have said that saccharin will possibly render an alkaline urine acid. This is undoubtedly true, but only so far as saccharin exerts its antiseptic properties during its elimination, as unchanged saccharin, by the urine. The use of large quantities of water containing carbon dioxid, as first advocated by Ultzmann, has not given uniformly or markedly good results.

In dealing with irritating alkaline urine or with urine depositing phosphates, a urinary acidifier is desirable. In treating patients upon whom local measures, when carried out, result in disaster such a remedy is required. If it shall be proven that a remedy possessing such properties is also a safe and effective urinary antiseptic a real addition to our resources has been made, and when Nicolaier nearly four years ago offered hexamethylentetramin as a remedy which would accomplish both results—clear up a decomposing, and acidify an alkaline urine—the matter seemed well worth investigation. This substance is prepared by union of ammonia and formaldehyd in solution and occurs as colorless crystals which are readily soluble in water and possess the formula $(C_2H)_6N_4$. On account of the various ways in which this substance alters urine it has been named urotropin (from οὖρον, urine, and τρεπω, to change). Its first use was as a diuretic and lithon-

triptic. For the latter purpose its ready combination with salicylic acid gives it a peculiar value. That on internal administration it is readily eliminated by the kidneys is shown by its detection with bromin-water (precipitate of urotropin bromid) even within fifteen minutes. Were the good results from its use due only to dilution of the urine from its diuretic effect but minor claims would be made for its efficiency. It is a well-known fact that even uric-acid calculi may be disintegrated by prolonged immersion in a water which is effective in proportion to its purity. To this physical fact certain waters owe their reputation, rather than to the name which they have, or the substances which they are supposed to contain. Thus we must look to a direct action of the drug itself rather than to its diuretic properties however useful these may be. That when excreted in the urine this remedy dissolves uric-acid calculi there is positive demonstration. As for its antiseptic properties Nicolaier's early experiments showed that urine in which was excreted urotropin remained sterile after inoculation with pure cultures of the *bacterium coli commune* and that the drug hinders the development of micro-organisms such as the bacteria of ammoniacal decomposition. He also calls attention to the fact that the *bacterium coli commune* may frequently be a factor in many bacterial diseases of the urinary passages.

As to the mode of action and history of this remedy in the organism Casper has made some observations which tend to show that some of it in the organism is decomposed into formaldehyd. Urotropin was always detected in the urine and sometimes in the blood; formaldehyd sometimes in the blood and generally in the urine, the reason of these variations probably being because there is a combination of this latter substance with albuminous substances in blood or urine so that its presence cannot always be determined. Both substances have been found in the urine as early as ten minutes after administration and as late as fourteen days; generally the period of elimination is much shorter. So much has been written upon the antiseptic properties of formaldehyd, so much laboratory work has been done and its use has been so extensive in practical disinfection that it is superfluous to recapitulate what is already definitely known and what has been put to practical use.

The final question now arises, Is urotropin an absolutely safe remedy? This is of especial pertinence for sound kidneys are the exception when a patient has suffered from long-standing cystitis, no matter what the original cause may have been. The kidneys are subject for suspicion when disorders of metabolism, of which uricacidemia is one expression, have been marked. It is perfectly true that large doses (90 grains *per diem*) have given rise to burning in the bladder region, urethral pain, and increased desire to micturate. If, when these symptoms have arisen, the same dose is maintained, occasional blood-corpuscles and some transitional epithelium may appear in the sediment. All these symptoms promptly disappear as soon as the dose is diminished. Thirty grains per day are sufficient and from this amount no untoward symptoms have been encountered nor do I know of any record in extant literature. That the decomposition of urotropin into formaldehyd takes place in the blood is evident from the observations of Linossier, who shows that this substance even in well-diluted solutions is a gastric irritant.

The following instances of the use of this remedy are typical ones:

Case I.—In December, 1894, a gentleman of sixty years of age was seen at his residence. For the preceding four months he had been unable to lie down because of a distressing shortness of breath and incessant cough. Physical examination revealed ascites, hydrothorax, pulmonary edema, aortic and mitral incompetency with dilatation of the left ventricle. Under appropriate treatment the various collections of dropsical fluid were gotten rid of, the heart compensated, and March, 1895, found him able to sleep in bed six to eight hours at night, and in a fairly comfortable condition. He has been under observation during the time which has elapsed until April, 1897. At that time he began to rise more frequently at night, there were frequent stoppages of urine and the voiding of it caused pain. Physical examination showed that cardiac compensation had been maintained and his general condition was fairly satisfactory, slight edema of the feet being excepted. The prostate was found to be distinctly enlarged and there was marked tenderness on pressure over the lower ribs on both sides. The following is the report of the examination of urine: April 9 and 10, 1897, quantity 63 ounces (24 urinations); specific gravity, 1018; reaction when examined, strongly alkaline; odor, ammoniacal; sediment, large amount, ropy. Chemical analysis: Albumin present, ¾ of 1 per cent. by weight; indican, increased; blood, absent; urea, normal; uric acid, diminished. Microscopical examination: Casts, few hyaline and finely granular; pus, present in large amount; epithelium, large amount of pelvic and bladder; crystals, ammonio-magnesic phosphate; bacteria, in large numbers.

The pain on urination, the frequency of the act, the vesical tenesmus were evidently due to the enlarged prostate, secondary bladder inflammation, and recently developing pyelitis. Inasmuch as the patient was residing in the country, it did not seem to be proper either that he should be inducted into catheter life or that local treatment should be undertaken. The tenesmus and pain were markedly re-

lieved by suppositories of the alcoholic extract of belladonna leaves. The use of diluents, balsamics, and benzoates did not materially alter the physical appearance of the urine. On April 30th, salol was prescribed. In small doses (5 to 7 grains) it was without effect; in larger, blood would appear in the urine. Not only was blood-coloring matter present, but altered red corpuscles could be readily found. When 40 grains per day had been reached there was a total absence of sulphates (barium-chlorid test) in the filtered urine, the color became decidedly darker, but while the frequency of urination was diminished, the urine was quite as ropy and the albumin percentage as high if not higher. Salophen and salipyrin each seemed to be of temporary benefit. Sodium salicylate promptly upset the stomach as did oil of gaultheria and volatile oil of betula. Finally it was thought best to return to salol, which was commenced in 5-grain doses on June 12th.

The report of the examination of the urine on June 28th was as follows: Quantity, 56 ounces (18 urinations); specific gravity, 1017; reaction when examined, alkaline; odor, ammoniacal. Chemical analysis: Albumin present, ½ of 1 per cent. by weight; bile, trace; indican, increased; urea, normal; uric acid, normal. Microscopical examination made June 28th: Casts, few hyaline and finely granular; blood, few altered cells; pus, present in considerable amount; epithelium, considerable amount of bladder, few pelvic cells; crystals, ammonio-magnesic phosphate; bacteria, in large numbers.

Inasmuch as the amount of albumin was readily accounted for by the mucus and pus and there was not evidence of serious renal changes, it was thought best to continue the salol, with such regulation of diet as was practicable, and to make use temporarily of spartein sulphate to assist the heart and promote diuresis. Under this *régime* the summer was passed comfortably and locally satisfactory reports were made until November, when the pain, tenesmus, and frequent micturition returned.

The examination of urine was as follows: Passed, November 2nd and 3rd, quantity, 39 ounces (30 urinations); specific gravity, 1011; reaction when examined, alkaline; odor, ammoniacal; sediment, almost solid with ropy substance. Chemical analysis: Albumin, present almost 1 per cent by weight; bile, traces; indican, increased; blood, coloring matter present; urea, diminished; uric acid, diminished. Microscopical examination: Casts, few hyaline and finely granular; blood, numerous red corpuscles; pus, present in large amount; epithelium, large amount and squamous; crystals, few ammonio-magnesic phosphate; bacteria, plentiful.

Evidently the problem was becoming complicated by renal insufficiency. Urotropin in 7½-grain doses thrice daily after meals was ordered, and the spartein was continued. The diet and instructions as to diluent fluids remained unchanged, but salol was omitted. On November 12th there was a marked change in the urine; the amount had risen to 64 ounces (24 urinations) of a specific gravity of 1016, the ropy sediment was lessened, the sulphates were normal, and blood had diminished. The ammoniacal odor was less marked, but the bacteria were as plentiful as ever. On the 22d, the change was still more marked; the alkalinity was faint, the bacteria in small numbers, as compared with the past, and the amount of ropy material very much lessened. The treatment was continued.

The examination of urine on November 27th was as follows: Quantity, 61 ounces (14 urinations); specific gravity, 1021; reaction when examined, faintly acid; transparency, nearly clear. Chemical analysis: Albumin present, $\frac{1}{10}$ of 1 per cent; bile, trace; indican, slightly increased; urea, slightly decreased; uric acid, normal. Microscopical examination: Casts, few hyaline; pus, in small amount; epithelium, some bladder, few pelvic cells; bacteria, few in number.

Urotropin has been continued, generally in 7½-grain doses twice daily, a part of the time as 10 or 15 grains at bed-time, with occasionally intermission of a day, until the present time. Medication addressed to his circulatory apparatus has been used as required. No untoward symptoms have arisen from so prolonged a use of the drug, and that it has been prolonged and constant has been due to the implicit belief of the patient that this has relieved him of his suffering and his refusal to do without the remedy.

Examination of urine made on June 29, 1898: Quantity, 55 ounces (ten urinations); specific gravity, 1022; reaction when examined, acid; transparency, nearly clear. Chemical analysis: Albumin, trace; indican, increased; urea, normal; uric acid, slight increase. Microscopical examination: Casts, few hyaline; pus, small number of cells; epithelium, few bladder-cells; bacteria, very few.

This is certainly one of the conditions which perplex the physician. The danger of operative interference, the necessary care in local treatment, and the difficulty of keeping catheters aseptic render these unfortunates subjects for earnest thought. The results in this case, and this, although more striking, is but one of several which could be cited, show that the problem has become much simplified. It is evident that urotropin is not bactericidal, but rather inhibits bacterial development.

The extension of the field of usefulness of this drug in preparatory treatment for necessary surgical intervention is left for the surgeon to develop. The frequently unexpected fatality of the minor operations, and even after explorations, show plainly that preliminary treatment is necessary if the surgeon would relieve himself of blame.

The following is an unusual but difficult condition for treatment:

CASE II.—An unmarried clergyman, thirty-one years old, had suffered from various dyspeptic symptoms for more than a year. He was excessively nervous, a light sleeper, exceedingly variable in his

temper, and entirely disinclined to attend to his duties. The immediate cause for his seeking medical advice was his discovery of the fact that he was passing a turbid urine, which was whitish in color, during the morning hours. He had decided that the cause of the turbidity was semen, and that his intellectual and physical end was imminent. On assuring him that true spermatorrhea was one of the rarest of conditions, he became somewhat satisfied.

The examination of urine on March 6th resulted as follows: Specific gravity, 1026; reaction when examined, alkaline; appearance of sediment, "sandy." Chemical analysis: Albumin, absent; bile, traces; indican, increased; urea, normal; uric acid, increased; phosphates, earthy and alkaline, increased. Microscopical examination: Casts, absent; spermatozoa, none (centrifuge specimen); epithelium, small amount of bladder; crystals, ammonio-magnesic phosphate; bacteria, absent.

On boiling the urine the turbidity immediately increased; a small addition of nitric acid cleared it. The night urine was free from turbidity, but contained an increased amount of earthy phosphates. A strictly meat diet was insisted upon, gentian and nitrohydrochloric acid prescribed before meals, an increase of out-door exercise, and freedom from anxiety declared to be necessary. On the 19th, there was substantially the same report. The urine showed a small amount of phosphates during the morning hours, but still sufficient to make it turbid when voided; it was still alkalin up to noon. Recalling the fact that urotropin is one of the drugs upon which most reliance can be placed as an urinary acidifier, 10 grains were ordered to be taken after each meal. The other remedies were continued, for the patient was verging upon insanity, so excited had he become about his "muddy" urine. Three days later (22d) he reported that his urine was entirely clear during the whole twenty-four hours. The gentian and nitrohydrochloric acid were now omitted; the urotropin was continued.

On March 31st the examination of urine showed: Specific gravity, 1021; reaction when examined, acid; transparency, clear. Chemical analysis: Bile, absent; indican, slight increase; urea, slight increase; uric acid, normal; phosphates, earthy, slight increase; alkaline, normal. Microscopical examination: Epithelium, few bladder-cells.

Urotropin was continued in 15-grain doses night and morning. April 29th he reported that there had been no recurrence of symptoms; medication was then stopped. On June 15th the report was made that the patient had remained entirely well since his last report.

While it is undoubtedly true that recovery would have taken place under the classical treatment, it is equally true that the prompt and absolute clearing up of the phosphoturia under urotropin produced so marked a mental impression that further progress was rapid toward recovery. Notwithstanding this, there is no reasonable doubt that this is a remedy of remarkable potency for the clearing up of phosphatic urine.

Case III.—A young man, aged twenty-four years, reported that six days before he had noticed an urethral discharge which had come on four days after an illicit connection. He had been treated by a physician who had given him injections and internal medication until he could neither eat nor sleep. He was nauseated, suffered from incessant pain in the bladder, had a continued desire to pass water, which, when accomplished, resulted in the voiding of a small amount, and of severe smarting. Physical examination revealed a copious urethral discharge, yellow in color, and of a thick consistency. Microscopic examination of the discharge revealed large numbers of the gonococci (Neisser's method). The examination of urine on June 2d showed: Specific gravity, 1018; reaction when passed, alkaline; transparency, cloudy. Chemical analysis: Albumin, full trace; blood, small quantity. Microscopical examination: Blood, many red corpuscles; pus, in abundance; epithelium, large amount of bladder; bacteria, in great abundance.

The inflammation was altogether too vigorous to permit the use of the endoscope. Silver citrate (Credé) in 1-per-cent. solution was injected every four hours by the patient, this being preceded by an injection of the official solution of hydrogen dioxid and lime-water in equal parts. Internally urotropin was prescribed in 7½-grain dose four times daily. On the 4th it was reported that the urine could be retained for an hour, the pain was markedly lessened, the appetite had returned. Gonococci were still numerous. The urine was natural, but contained no blood. On the 6th, the patient claimed that there was great relief from the pain and dysuria, and that the discharge had almost ceased. After preliminary irrigation with normal saline solution an endoscope of small caliber was inserted and the entire urethra found to be actively inflamed so far as the instrument reached. The discharge still contained a few gonococci. Two days later it was possible to make a thorough exploration with the above precautions. The urethra was uniformly reddened and still quite sensitive. No gonococci were found (4 slides, Neisser's stain).

The examination of urine on the 8th showed: Specific gravity, 1020; reaction when passed, acid; appearance of sediment, slightly flocculent. Chemical analysis: Bile, trace; indican, increased; blood, absent. Microscopical examination: Pus, few cells; epithelium, few bladder-cells; bacteria, in small number.

The instructions for treatment were repeated, and on the 10th he again reported still further improvement. The endoscope showed that the urethritis had quieted considerably. Urine could be retained for three hours. On the 15th, there was no discharge, and but little burning on urination. On the 20th, injections were discontinued. Four days later all symptoms being relieved, all medication was omitted. On July 8th, no gonococci were

found on stripping the urethra, no symptoms had returned and the patient was released from attendance. The disappearance of the gonococci within six days is doubtless distinctly chargeable to the silver citrate. But as that has no effect upon the inflammation, either of bladder or urethra, it seems best to administer internal remedies. The correction of the excessive alkalinity of the urine, undoubtedly brought about by the careless administration of alkalies, and the irritation added to, possibly by neglect of dietary precautions, had brought this patient to a deplorable condition. Urotropin cleared the urine with promptitude and the good effects continued.

CASE IV.—A young woman, aged twenty-four years, was delivered of a girl some two years after her marriage. The labor which occurred in December, 1897, was uneventful. She recovered well, except for a pain which was severe in passing urine, a constant desire to urinate, and pains in back and limbs. For these symptoms she had been treated locally and internally by the physician who attended her. On February 24th, she came under observation for these and symptoms which might indicate renal disease. The examination of urine on February 24th, showed: Quantity, 41 ounces; specific gravity, 1026; reaction when examined, neutral; appearance of sediment, much, flocculent. Chemical analysis: Albumin, ⅛ of one per cent. by weight. Microscopical examination: Casts, few finely granular; blood, few cells; pus, small quantity; epithelium, plenty of bladder, and some pelvic; crystals, few ammonio-magnesic phosphate; bacteria, in abundance.

Inasmuch as there was a likelihood of bladder infection and secondary pyelitis through catheterization, on four or five occasions during the puerperal month, by the nurse, it was thought best to clear the urine in order, if possible, to get more definite information as to the kidneys. Urotropin in 15-grain doses was given twice daily. Nearly a month later (March 22nd), she reported, saying that all symptoms had disappeared within a week of her visit, but that she had continued the remedy one week longer. During the time which had elapsed there had been no return. The examination of urine March 22nd, showed: Quantity passed in 24 hours, 49 ounces; specific gravity, 1017; reaction, acid; appearance of sediment, flocculent. Chemical analysis: Albumin, ⅛ of one per cent. by weight. Microscopical examination: Casts, few finely granular, few epithelial and many hyaline; epithelium, very few bladder-cells.

The history seemed to point to the fact that an infection, involving both the bladder and the pelvis of the kidneys, had taken place in a woman whose kidneys were previously diseased. This local treatment had not benefited. Within one week the bladder was relieved, she received treatment for a second week and remained well for two weeks without medication. The patient is now under treatment for the renal difficulty.

From a study of the above observations and of others, it seems fair to present the following conclusions:

1. Urotropin produces no untoward symptoms when administered in amounts of 30 grains *per diem*.

2. It renders an alkaline urine acid no matter what the cause may be.

3. It inhibits the development of the micro-organisms of ammoniacal cystitis and in this way clears up cloudy urine.

4. It is indicated as a preparatory disinfectant in operations upon the urinary tract; in pyelitis, cystitis, and other inflammation of the urinary tract irrespective of their cause in phosphaturia, and in other conditions tending to formation of urinary calculi.

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CLINICAL OBSERVATIONS IN REGARD TO GENERAL ANESTHESIA BY THE SCHLEICH MIXTURES.[1]

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IF any one should doubt the propriety of bringing the subject of anesthesia before a gynecological society I would answer that not only a great part of the gynecologist's work is operative, and that consequently he is interested in the use of anesthetics, but that his operations often are of unusual duration as compared with other surgical operations, and that he often has recourse to the Trendelenburg position, which entails particular dangers in regard to anesthesia. And, furthermore, the special anesthetic which is the subject of this investigation recommends itself particularly to the gynecologist for diagnostic purposes, as will be shown later.

This Society offers, also, the special advantage of being a national society, counting among its members some of the greatest operative gynecologists from nearly all parts of the country, so that it is particularly fit for testing the value of a new anesthetic.

The question of anesthetics has evoked consider-

[1] Read at the Twenty-third Annual Meeting of the American Gynecological Society, held at Boston, May 24, 25, and 26, 1898.

able interest of late years. Ether, on account of its threefold greater safety, is constantly gaining ground as compared with chloroform; but some have in the mixture of both with the addition of absolute alcohol —the so-called A C E mixture—thought to be found the best of all anesthetics, its record as to safety having distanced all others

As opposed to general anesthesia, which by its very nature contains an element of danger to life, Dr. Schleich[1] of Berlin, in 1894 strongly advocated a much more extensive use of local anesthesia and discovered the anesthetizing power of solutions containing so small an amount of cocain and morphin that the element of danger is eliminated. The whole procedure is, however, so complicated that it is very unlikely to become of any great importance in the kind of work with which we are concerned.

On the other hand, this same Dr. Schleich has investigated the physical laws that underlie general anesthesia, and indicated new mixtures which he claims are preferable to any general anesthetic hitherto in use. He says it is evident that an anesthetic which evaporates rapidly can be rapidly eliminated through the respiratory tract, whereas a slowly evaporating gas must stay longer in the body and is more apt to cause a dangerous accumulation. According to his theory, the composition of the anesthetic should, therefore, be such as to have a boiling-point proportioned to that of the body. For quite short operations he recommends the use of an anesthetic that has a boiling-point identical with the temperature of the body, and for long operations one with a boiling-point 2° or 3° C. (3.4° to 5.4° F.) higher, which latter he also recommends for patients with fever.

Schleich says, also, that the chemical reaction of the saliva shows that in mixtures of fluids with low boiling-point with others with high boiling-point, the latter are carried along by the former, so that they are eliminated much faster than they would be if used alone.

Chloroform has the high boiling-point 65° C. (149° F.), while sulphuric ether has the low boiling-point 34° C. (93° F.) By experimenting with different fluids he came to the conclusion that the best anesthetic was a mixture of chloroform, sulphuric ether and petroleum ether at a boiling-point between 60° and 65° C. (140° to 149° F.).[2] He chose petroleum ether because he had found in experiments on animals that we do not possess any other ethereal substance of which such astonishing quantities may be injected hypodermically without the occurrence of serious disturbances. He uses these three substances in different proportions constituting his three mixtures:

Mixture I.—Boiling-point 38° C. (100.4° F.):

	Parts by Volume.
Chloroform	45
Petroleum ether	15
Sulphuric ether	180

Mixture II.—Boiling-point 40° C. (104° F.):

Chloroform	45
Petroleum ether	15
Sulphuric ether	150

Mixture III.—Boiling-point 42° C. (107.6° F.);

Chloroform	30
Petroleum ether	15
Sulphuric ether	80

It appears from these formulæ that Mixture I. contains $\frac{3}{16}$ chloroform—that is, a little less than $\frac{1}{5}$; Mixture II., $\frac{3}{14}$, or a little more than $\frac{1}{5}$; and Mixture III., $\frac{6}{25}$, or a little less than $\frac{1}{4}$.

The first to call attention to this new anesthetic in this country was Dr. M. L. Maduro,[1] who had had the opportunity of seeing it administered in Schleich's clinic. In a later paper[2] he unfortunately stated that rhigolen could be used instead of petroleum ether. This was due to the mistake that rhigolen, which has the low boiling-point of 70° F., was thought to have that of 70° C. Such statement not being revoked has, perhaps, led others like myself to experiment with a wrong and dangerous mixture. I used it in a number of cases before my attention was called to the error by the manufacturer of both rhigolen, and petroleum ether. Later Dr. Maduro read a paper embodying his experience with a hundred cases before a society in Philadelphia.

Dr. W. Meyer read a paper on Schleich's method before the New York County Medical Society on December 27, 1897, based on his experience in 100 cases, and accorded unstinted praise to the new anesthetic, which he declared to be a solution, not a mixture.[3] He was, however, later informed by Dr. H. P. Weidig, that No. I. contains 53.76 per cent. in volume of free ether; No. II., 44.64 per cent., and No. III., 36.96 per cent.[4] According to his latest communication he now uses only a mixture of 43.25 per cent. by volume of chloroform, and 56.75 per cent. of sulphuric ether, which form a molecular solution, which he gives by the continuous drop method.[5] It will be noticed that this abandonment of Schleich's mixtures is exclusively based on theoretical grounds. From his practical experience in upward of 100 cases he was "delighted with the improvement in general anesthesia by means of these

[1] C. L. Schleich, "Schmerzlose Operationen." Berlin, third edition, p. 166, 1898.

[2] Such petroleum ether is manufactured by Cooper, 194 Worth St., New York.

[1] Maduro, MEDICAL NEWS, November 27, 1897.

[2] *Idem.*, December 18, 1897.

[3] W. Meyer, Reported in the *Medical Record*, p. 62, January 8, 1898.

[4] *Ibid.*, p. 358, March 5, 1898.

[5] *Ibid.*, p. 607. March 5, 1898.

mixtures, and tried to induce his colleagues also to make use of the same for the sake of their patients."

Drs. Stillmann and Greeley have reported forty-four cases anesthetized by the Schleich method in the New York Infirmary for Women and Children. The average length of the operations was fifty-two minutes; the average amount used to produce anesthesia was seven-eights of an ounce; the average amount used in all, three and one-third ounces; the average time it took to produce anesthesia was ten and one-half minutes, and consciousness returned on an average in fourteen minutes. Eighteen patients were considerably nauseated during twenty-four hours after the operation, three of them more so than after other anesthetics administered at previous operations. Mixture I. was used in 24 cases, Mixture II. in 16 cases, and Mixture III. in 4. The muscular reflexes were difficult to control with No. I., and Nos. II. and III. "would be used in a larger proportion of cases again." They used Esmarch's mask covered with flannel and oiled muslin. With few exceptions the patients received $\frac{1}{8}$-grain of morphin and $\frac{1}{150}$-grain of atropin half an hour before the operation. It will appear in the following that in entirely similar operations we used much more frequently the weakest solution, needed much less to produce anesthesia, produced it in much shorter time, and had much less vomiting.

Schleich's theory that the danger of the different anesthetics chiefly is due to the difference in their boiling-point, and that the composition of the mixture should be decided by the patient's temperature, may be questionable, and it will be seen in the following that my personal experience does not always bear out that theory. My investigation has been purely clinical. Having for many years taken a deep interest in the question of anesthetics, and being persuaded that our present methods were open to great improvement, as soon as I read Dr. Maduro's report of the Schleich anesthetic I made arrangements with my colleagues at St. Mark's Hospital to give it a fair trial, and without enthusiasm or prejudice to try to obtain material enabling me to form an opinion as to its merits and drawbacks, based on facts accurately observed and systematically recorded. In this work I have been ably assisted by Dr. C. J. Buddeke, a member of the house-staff, who, when other engagements prevented my presence, has carried out the investigation on the lines traced by me. In this way we observed and recorded 100 cases, which form the base of the following report.

With any kind of anesthetic we have to take into consideration first of all, safety; secondly, speed; thirdly, the comfort of the patient; fourthly, simplicity, and, finally, economy. The safety of the new method cannot be proved until it has been used many thousand times and its record made up in conformity with that of the other anesthetics. So far we can only state that no case of death has been reported with the Schleich mixtures. Like all other anesthetics, that of Schleich contains, however, an element of danger. We cannot make that profound impression on the brain which is needed to abolish sensation without coming dangerously near paralyzing the centers of respiration and circulation. But so far as my observation goes as to the appearance of the patient, the absence of struggling, the condition of the respiration, the pulse, the pupils, and the urine, the promptness with which consciousness returns after the withdrawal of the anesthetic, and the unparalleled comfort of the patient after the return of consciousness—all this leads me to look upon the new anesthetic as less dangerous than any one we have known hitherto. In regard to speed, it ranges between chloroform and the A C E mixture.

As to the patient's comfort, it is simply amazing. Where we used to see patients lying insensible for hours, leaning over the vessel destined to receive their vomit, we find them now lying quietly on their backs, or see them sit up or leave the hospital or office in a short time without even needing a companion. Our nurses soon found out how much less attendance was needed on their part with the Schleich mixtures, and patients who had tried ether and chloroform on other occasions found the Schleich mixture much pleasanter than either of them. In regard to simplicity, the new method leaves nothing to be desired, a common Allis ether-inhaler or the paper and towel cone being all the paraphernalia called for. In private practice it does not make much difference if one anesthetic costs a few cents more than another; but in the budget of a hospital the item of anesthetics is a very large one, and the comparative cheapness of the Schleich mixture is another point in its favor. The price of chloroform is $1.08 per pound, that of ether 99 cents, and that of petroleum ether only 50 cents. The combination costs a little less than ether, and very much less is used of it.

The mixture may be used in every case in which general anesthesia is not contraindicated. The age of our patients ranged from ten to eighty years. Three had heart disease, 1 stenosis of the aorta, 1 a fatty heart, and 1 accentuated second sound; 2 had marked arteriosclerosis; 4 had lung trouble, 2 bronchial breathing; another sibilant râles, and a fourth absence of respiratory murmur on the right side. In seven cases the urine was more or less al-

buminous before the administration, and their condition was in no way made worse by it, and in not a single case did there appear albumin when it had not been there before. If this seems to prove too much, since albumin and casts are found frequently after longer operations, especially when chloroform has been given, I must state that the urine was examined in every case, but not before the next day, and then it was found normal if it had been so before the operation. In two cases there was a trace of sugar in the urine before the anesthetic was given, in one of which it had disappeared after. There was one alcoholic. He offered no resistance, was anesthetized in seven minutes, and needed only 20 c.c. of the weakest mixture. In twenty cases the general condition of the patients before operation was only fair, and in nine it was decidedly bad.

In an institution like St. Mark's Hospital there was of necessity a great preponderance of serious operations, such as laparotomies, hysterectomies, removal of the appendix vermiformis, pylorectomy, gastrostomy, etc. Many of these operations were difficult and required much time. The average duration was 52 minutes, but in 13 cases it was between 1 and 2 hours, in 4 between 2 and 3 hours, and in 1 even 3½ hours. Frequently Trendelenburg's position was used. In an empyema operation with total absence of respiratory murmur on one side, the patient was lying on the healthy side, and in another case the patient had to be laid partly on the side and partly even on the abdomen during a bloody operation lasting fifty minutes.

I have tried different forms of inhalers. An Esmarch chloroform mask covered with flannel and oiled silk, through which goes the nipple of a baby-bottle from which the end has been cut off so as to form a funnel, has been recommended by those who use the drop method. The solution dissolves, however, the resinous part of the oiled silk, and I therefore replaced it by sheet-rubber, which worked well; but it is often difficult to hold the bottle just over the little funnel so as not to miss it. Maduro uses the well-known American towel-and-paper inhaler, which has the advantage of being always improvised, and therefore, clean and odorless. It has, however, to be removed from the face in order to pour on the anesthetic. I soon came to the conclusion that Allis' ether-inhaler worked best of all. It is, under ordinary circumstances, never removed from the face during the administration of the anesthetic. In the beginning the top is left open, so that the patient gets plenty of air and is not frightened. Later, when he is half or totally unconscious, the top is folded together, and is kept closed or opened according to the condition of the patient. We use the double-tube attachment to the bottle, by which one can easily pour the fluid out drop by drop, or in a thin stream. We start with a few drops, and soon proceed at such a rate as to administer on an average 1.5 c.c. every half minute.

In the beginning we followed Schleich's rule about choosing a solution the boiling-point of which was proportioned to the temperature of the patient; but I soon found that we could anesthetize our feverish patients as well with the weakest solution. In one woman the temperature was 103.6° F., and still it took only six minutes to anesthetize the patient with No. I., and only 20 c.c. were used. Differing from others who have reported their experience, we have, therefore, used No. I. nearly exclusively—ninety cases. No. II. was only used once, in the case of a patient with a temperature of 99.8° F. No. III. was used in six cases, one patient having a temperature of 104.8° F., two 102° to 103° F., and two 99° to 100° F., and the sixth normal temperature. In three cases we began with No. I. and changed to No. III., in the two when anesthesia had not been obtained in ten minutes, and in a third after thirty-eight minutes, because it was not deep enough. I have, therefore, made it a rule to begin with the weakest solution in every case, and if anesthesia is not produced in ten minutes to substitute the strongest. In private practice it is advisable to have the three ingredients in separate bottles, and a measuring-glass divided in 100 c.c. If Mixture I. does not keep the patient immobile, or the muscular relaxation is unsatisfactory, transition is likwise made from Mixtures I. to III. No. II. seems superfluous to me. In spite of our using Allis' large cone, pouring the fluid on intermittently in a stream and using the weakest solution, we have used much less of it than others. The average amount used to produce anesthesia has been 17.45 c.c., a little over half a fluidounce. The lowest amount was 7.5 c.c., the highest 35 c.c. In the large majority of cases from 15 to 20 c.c. sufficed. In the one case in which Mixture II. was used, a patient with a temperature of 99.8° F., 25 c.c. were needed to produce anesthesia. Of the six patients who received Mixture III., two had 10, one 15, and three 30 c.c.

The total amount used during the whole operation has been much smaller than that of others. While Drs. Stillmann and Greeley used on an average three and a half ounces (105 c.c.) for an average time of fifty-two minutes, and Dr. Meyer from six to eight ounces for operations lasting from forty to sixty minutes, we have only used on an average 50.91 c.c. for an average time of fifty-two minutes. Minimum, 20 c.c.; maximum, 130 c.c. Unfortunately, most operators are in a hurry to begin their opera-

tions and are very apt to be unreasonable in their demands on the anesthetist at the peril of the patient's life. Rapidity of action is doubtless the chief reason why so many surgeons still use chloroform after its much greater danger as compared with ether has been proved by statisties embracing many thousand cases.

With any kind of anesthetic there will, on account of individual peculiarities, always be patients who require much longer time than others to be safely anesthetized. I operated once on a lady, and an assistant who had had considerable experience at the Charity and Maternity Hospitals in giving both ether and chloroform gave chloroform for me during three-quarters of an hour without obtaining unconsciousness, but causing tetanic contraction of the muscles. We then changed for ether, which had to be given during half an hour before the patient was anesthetized. In another case I personally gave ether for half an hour without abolishing sensation, and had then to change to chloroform. In a third case anesthesia could not be produced at all. It was an apparently strong, healthy woman, forty-two years of age, who in former years had had attacks of petit mal. We tried in vain Schleich's mixture, ether, A C E mixture, and Cole's mixture of ether and oxygen. Whatever we tried had the same effect, namely, that the moment consciousness became slightly dimmed she stopped breathing altogether. If speed shall decide the choice of the anesthetic, it seems that the gas-ether method must be awarded the palm, since it is claimed that the patient is ready for operation in two minutes. I have no personal experience with this combination, but the difficulties inherent in the administration of nitrous-oxid gas will at best limit its use to hospitals, and there remains, of course, all the undesirable effect of ether anesthesia—the frequent vomiting, the unpleasant taste, lasting for twenty-four hours, and the inextinguishable thirst.

Compared with other anesthetics, the Schleich mixtures have given us entirely satisfactory results in regard to the time needed for anesthetizing the patients. Not only has our average been six minutes, but six minutes has by far been the time most frequently required. Our minimum has been two minutes and our maximum seventeen minutes. This last length of time was needed in a woman whose temperature was 101° F., and who was in a low condition on account of puerperal sepsis. We have very rarely needed over ten minutes, and such cases occur just as well with ether and chloroform. The one patient who received Mixture II. needed it nine minutes; with No. III., four, six, seven, nine, thirteen, and fifteen minutes respectively was needed; in the two cases in which No. I. was changed for No. III., after fourteen minutes, four additional minutes was required. Our average of six minutes is considerably shorter than that given for ether by Dr. B. B. Brouner,[1] in his excellent article on "Rational Etherization," with which I fully agree. His average time was eight and a half minutes. There has been remarkably little excitement before unconsciousness was produced. Only two showed a slight degree, and three others struggled a little. In the only alcoholic patient we had there was no struggling at all. There has been much less accumulation of mucus in the mouth and throat than with ether. Only in two cases has it been abundant; in four, moderate; and in six, slight.

Schleich claims that there is no cyanosis at all with his method. We have, indeed, not had a single case of that pronounced blueness so often observed during other anesthesia, especially in Trendelenburg's posture. But we have recorded slight cyanosis in three cases and moderate in three, one of which was in Trendelenburg's position, and the other in the knee-chest position. There is also much less vomiting than when ether or even chloroform is used. In 69 per cent. there was no vomiting at all; in 27 per cent. it was slight; in 2 moderate; in 1 it lasted an hour and a half, and in another case it was considerable, but in not a single one severe. One patient had eaten a full dinner three hours before being anesthetized, and still he did not vomit and felt perfectly well shortly after the operation. I have not been able to find a constant influence on the pulse. In many of our cases the excitement of having to undergo an operation would cause a frequency of pulsation, which gave way to a normal pulse under the influence of the anesthetic. In many others we counted a few more beats per minute at the end than before beginning, and in a large number a few less. As to the volume there is a tendency to diminution, but we have not had a single case in which it had a serious character.

The real danger with Schleich's mixtures as with other anesthetics lies in its influence on the respiration. The frequency of the respiratory movements was invariably increased—minimum 24, maximum 65, commonly between 30 and 40 per minute. In three cases we have had arrest of breathing, which, however, easily yielded to artificial respiration by Sylvester's method, inhalation of oxygen, and hypodermic injection of strychnin. In one of these cases $\frac{1}{6}$ grain of morphin and $\frac{1}{150}$ grain of atropin had without my knowledge been injected under the skin two minutes before beginning the anesthesia. Opinions are much divided about the value of the pre-

[1] W. B. Brouner, *Medical Record*, January 29, 1898.

liminary administration of narcotics before giving anesthetics; but under all circumstances at least twenty minutes should have elapsed since the narcotic was given before anesthesia is begun. Otherwise we risk getting an incalculable cumulative effect. The second case was that of a very fat man with fatty degeneration of the heart and albuminuria. The third was a young woman with hyaline and granular casts in her urine, who was being examined with the cystoscope. Upon the same patient I later performed Alexander's operation without having any trouble from the same anesthetic. In a fourth case the respirations became very superficial, and similar means as the above-mentioned were used to bring it back to the normal type. In three of these four cases the administration of the anesthetic was resumed and continued till the end of the operation. The respiration should be watched carefully and constantly. Not only deep and frequent respirations are a warning that the patient needs more air, but slow and superficial breathing is of still worse purport, and should be met by immediate intervention or discontinuance of the anesthetic and employment of the usual remedies for failing respiration. We also watched the pupils very closely. In nearly all cases they were contracted, but in two they were dilated, and in five they were alternately dilated and contracted. According to Schleich (*loc. cit.*, p. 65) the contracted pupil is that of natural sleep, the dilated is found in poisoning with carbonic acid. He says, therefore, that when the pupil is dilated the cone should be removed, so as to admit more oxygen. This would, however, not have been possible in those cases in which it was dilated all the time. But the dilated pupil being also that of death, I hate to see it, and am particularly watchful when it appears.

One of the greatest advantages of the Schleich method is the rapid return to consciousness and a normal condition. The average time at which the patients regained consciousness was fifteen minutes —minimum, one minute; maximum, forty minutes; most frequently, nine minutes.

The ease with which the patients take the anesthetic and the rapidity with which they return to a normal condition, in which respect it is only surpassed by nitrous oxid gas, is of particular value to the gynecologist, as it will induce him to extend the use of the valuable examination under anesthesia and make the undesirable exploratory incision rarer and rarer.

The outcome of my investigation is, then, that the Schleich mixtures are easily taken; that they may be used in all cases in which general anesthesia is not contraindicated; that anesthesia can be induced in a short time and kept up with small amounts of the fluid; that there is little accumulation of mucus, little vomiting, hardly any cyanosis; that there is no bad effect on the kidneys; that the heart is not much influenced by it, although somewhat weakened; but that there is some danger in regard to respiration, although apparently not more so than with other anesthetics; and finally, that it affects the patient much less than ether or chloroform. I can, therefore, recommend it for general use. Its advantages are so great that it ought at least to have a fair trial and only be condemned for cause.

SIMPLE AND MALIGNANT JAUNDICE OF PREGNANCY; REPORT OF THREE CASES.[1]

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DURING pregnancy simple jaundice is observed frequently, but the malignant form remarkably rarely, if one can rely upon text-books and medical periodicals. Fortunately, I had never seen jaundice as a complication of pregnancy until within the last few months. My experience with this disease is sufficiently unique to cause me to report the cases to this Society. The literature I have examined has very little to say upon this subject. In a diligent search through the files of the MEDICAL NEWS from 1888 to 1898 I found only one short article upon jaundice during pregnancy. Looking through the files of the *American Journal of Obstetrics* for 1891, 1892, 1893, and 1894, and the *American Gynæcological and Obstetrical Journal* for 1895, 1896, and 1897, I failed to find one word upon the subject of simple or malignant jaundice of pregnancy. I also looked over all the exchanges at my command, the *Medical Council*, *Southern Practitioner*, *Cincinnati Lancet-Clinic*, *Philadelphia Medical Journal*, *Virginia Semimonthly*, *Nashville Journal of Medicine and Surgery*, and some others, and found them also as silent as the grave upon the subject. It is true I might have overlooked the matter in some of the journals, but hardly think so.

Winkel, in his book on midwifery, page 255, says: "Jaundice is a rather rare disease of pregnancy." He has observed it only once in the catarrhal form, and of an aggravated type. Carl Braun observed the grave form only once in 28,000 pregnant women. Spoeth saw the disorder only three times in 14,061 pregnancies, Duncan once in 10,000 cases, and Winkel once in 16,000 cases.[2] All the authorities, I believe, agree that the same

[1] Read before the Upper Cumberland Medical Society, at Carthage, Tenn., May 5, 1898.
[2] "American System of Obstetrics," vol. i, p. 427.

cause or causes that bring on an attack in the non-pregnant woman will produce it in the pregnant, other things being equal.

In the "Practice of Medicine" by Wood and Fitz I find the following statement in regard to the etiology of the affection: "Mainly through the researches of Staddelmann it is now generally admitted that all cases of jaundice are due to the obstruction to the outflow of bile from the liver and the absorption of its pigment through the lymphatics of the liver, for there is no absorption of bile when the common bile-duct and the thoracic duct are tied." This has reference to simple jaundice. Carreau, in the MEDICAL NEWS of August 1, 1891, makes this statement in regard to the malignant form: "As to the pathology of grave jaundice two factors are necessary, the blood and the bile, but experience has long since proven that the mixture of these two bodies is inoffensive. The symptomatic yellowness, due to the biliary retention, may last for weeks and even months without altering, sensibly, the health, when all at once, under some unknown influence, the phenomena of grave jaundice show themselves and carry off the patient in a few days."

In my experience the prognosis in jaundice in pregnancy must be seriously guarded. Dr. John T. Winter concludes that every case of jaundice occurring in pregnancy should be looked upon as serious, jeopardizing both mother and child. Jaggard of Chicago says the prognosis in simple jaundice should be guarded in view of the unfavorable influence exerted by pregnancy upon the cause of the disease. He also states that it is doubtful whether an authentic case of this disease (grave jaundice) has ever terminated in recovery.[1] Grandin and Jarman state that "pregnancy is rarely complicated by icterus, but the disease assumes special importance from its tendency to become a malignant type," and the prognosis must always be guarded. Lusk says: "Icterus, although a phenomenon of rare occurrence during pregnancy, is interesting and important on account of its tendency to precede or to accompany the fatal pathological changes and symptomatic events connected with acute yellow atrophy of the liver." Playfair observes: "The chief anxiety in regard to jaundice in pregnant women is that it is the frequent precursor of the serious disease (grave jaundice), and that in this affection the prognosis as regards the mother is as bad as anything can be, very few cases, and these of doubtful character, having recovered." When a simple icterus takes on a malignant type it is very insidious, but within a short time it becomes rapid in its progress, and the woman is often in a fatal condition before the physician is aware of her imminent danger.

Grandin and Jarman give the following description of this change: "The transition of a simple icterus into the malignant form is gradual, and usually manifests itself by rise of temperature, this being absent in case of simple icterus. Cerebral symptoms rapidly develop, such as headache, difficulty in breathing, and delirium. The cause of the disease is rapid toward a fatal termination in a few days. The treatment can simply be symptomatic. It avails nothing to empty the uterus either in the interest of the mother or child."

The three cases I am about to report developed within a few days of each other, and the victims lived in the same little village not more than 100 yards apart. In the discussion of this paper I would like the members to take notice of this fact: Might there not have been a local cause? Two of the women, Cases II. and III., were twin sisters, and lived in the same house. Has the disease a hereditary tendency? The first two were supposed to be cases of simple jaundice, and were treated as such, but the first few days proved to be the prodromata of the fatal malady.

CASE I.—Mrs. B. D., aged thirty-five years, blonde, weight about 120 pounds; mother of ten children; six-months' pregnant. Ever since I first knew her she had been in reasonably good health. Being poor, she did her own housework, and took in washing to help support the family. During the six months of her pregnancy I was not consulted. About January 10th she called me in as I was passing and said: "I want you to give me some medicine, for I have 'yaller janders,'" and indeed she had developed a true case of icterus. I prescribed diuretics, baths, and the remedies ordinarily used in treating jaundice. I heard nothing more of her until January 20th, when I was sent for. On my arrival I found the jaundice much increased. She complained occasionally of great pain in the region of the stomach, and of severe headache. Everything looked yellow to her, and almost all the symptoms of an aggravated case of icterus were present. There was no elevation of temperature. Her pulse was about 80 and her bowels were acting, but the discharge was of a distinctly clay color. Her urine was scant and very highly colored.

She seemed to be in remarkably good spirits considering her serious condition, laughing and jesting with the family. Her high spirits without elevation of temperature and without any indication of secondary cerebral symptoms caused me to not regard it as a malignant case. I increased my efforts as above described. This visit was made at about 10 A.M. At 3 P.M. her condition suddenly became worse, and the family sent for her husband who was at work in the mines. I was not notified of the change in her condition until 9 P.M. The messenger then failed

[1] "American System of Obstetrics," vol. i, p. 420.

to inform me of the existing danger. He simply stated that she was no better and was suffering from severe pains in the stomach. At this hour I was very busy and sent her two tablets of sulphate of morphin, one-fourth of a grain each, and directed that one tablet be given at once and the other in two hours if she was not relieved. Should this fail to give her ease I was to be called. I was not summoned again until 5 o'clock the next morning, when I hurried to her bedside, as the messenger said he thought she was dying. When I reached the house I found the patient in profound coma, with stertorous breathing, respiration 22, and pulse 100, and feeble. I did not take her temperature. Her skin was of that characteristic dull yellow color, almost coppery, that accompanies the symptoms of cerebral origin. It was at this visit that I could see the fatal end. Her feet, legs, arms, and hands were very much swollen by this time, but had not been at my former visit. They continued to swell rapidly until death occurred. Both tablets of morphin had been administered during the night, as directed. From the husband I learned that she suddenly become unconscious about 9 P.M., and was quite delirious for a short time, then falling into a deep sleep, and from that hour until her death, which occurred January 21st at 2 P.M., seventeen hours later, she never spoke nor moved a muscle, being in profound coma. I made another visit at 11 A.M. and found her in about the same condition as at 5 A.M., except that she was almost pulseless. Every muscle remained as if paralyzed. When the hand or foot was raised it would drop lifeless on the bed. A dark fluid, similar to coffee grounds, was flowing from her mouth. The family told me this had continued for some hours, and they were confident that at least a pint of this fluid had been discharged. It continued to flow until her death. There was no discharge from the vagina until a short time before she expired, and this consisted of a small quantity of dark bloody fluid.

Case II.—Mrs. T. D., aged twenty-four years, had had one abortion one year before. When I saw her she was eight-months' pregnant. On January 25, 1898, I found her in bed suffering from a well-marked case of icterus. She complained of general soreness and pain in the region of the stomach. Her pulse was 88, and was quite feeble; temperature and respiration normal; urine scanty and high colored, and gave pain when voided. She had been vomiting freely the previous night. The vomitus was of a dark color, resembling coffee grounds. The bowels had moved four or five times during the night, and the discharge was of a dark color and waxy consistency. The husband had given castor oil the day before. I ordered hot baths and gave her phosphate of soda, with a diuretic. She had a ravenous appetite but nothing would remain on her stomach.

On January 26th, in the early part of the morning, she was confined. I was called at 6 A.M., but before I started a second runner came and said that I need not go, so I did not reach the patient until 3 P.M. I found that a female child had been delivered by a midwife. It was very much jaundiced, and was quite a puny looking object, at the end of thirteen days weighing only two and a half pounds. It did not seem to have strength to nurse, and lived only about six weeks. The midwife stated that the patient had the easiest labor she had ever witnessed; that the child was born with one or two pains. The placenta came without delay or difficulty. At 3 P.M. her pulse was 110, and feeble; her temperature, 98.7° F., and her respiration normal. The jaundiced condition had increased very much since the day before. Her appetite continued ravenous, but the vomiting persisted. Her bowels moved once during the night and I was informed that the passage was still dark and waxy. She complained of pain in the stomach and of being drowsy. On January 27th I saw her at 1 P.M., and found her unconscious and very delirious. Her pulse was 92, still feeble; her temperature, 97.8° F., and respiration normal. Her face was considerably swollen and her feet and hands were beginning to swell. Her husband said she continued to vomit the black material until 2 P.M., when she became unconscious and did not vomit any more during her sickness. She was continually grinding her teeth and had been since she became delirious. During the previous night the family thought she had two "spasms." Twice during the night there was involuntary discharge of feces and urine.

On January 28th I visited her at 1 P.M. She was still unconscious. Pulse 110; respiration normal. I did not take her temperature, having broken my thermometer. Hands, feet, and face still swollen. There was much eructation of very offensive gas. Her bowels had not moved since my last visit. She was still grinding her teeth. She would take water, milk, or medicine into her mouth, hold it for a short time, and then spit it out, refusing to swallow. She did not recognize any one during the day, when aroused. On January 29th at 11 A.M. her condition was practically the same. During the night her attendants succeeded in getting her to swallow some of the medicine and a little milk. The bowels were still locked, but there had been involuntary discharge of urine. Pulse 104; respiration normal. January 30th, 2 P.M., patient remained about the same until early in the morning, when all at once, without being spoken to, she awoke from her stupor and recognized several of her friends. She spoke only with great effort, but took her medicine and food nicely from this time on. She complained of pain in the region of the stomach. The bowels and kidneys acted normally. Pulse 120; temperature 99.8° F.; skin still very yellow. January 31st, 10 A.M. Patient somewhat improved. Pulse 120; temperature 98.6° F. The pain in the stomach continued; her speech was very slow and labored. February 2d. Patient's condition much improved. Pulse 98; temperature 97.6° F. Bowels and kidneys acting normally; skin clearing up. She talked and laughed with comparative ease. Tongue becoming clean; no pain; appetite returning. February 4th, 1 P.M.

I found the patient laughing and talking with friends. Skin clearing up nicely. Pulse 96; temperature 99.2° F. She said that she felt perfectly well but that the previous few days were a blank in her memory. Appetite good; bowels and kidneys acting well; swelling had about left her face, hands, and feet. February 7th, complete recovery.

CASE III.—Mrs. J. D., aged twenty-four years, married seven years; had had two children and one abortion; three-months' pregnant. I was called to see her January 28, 1898, and found her suffering from simple jaundice. I prescribed hot baths, light diet, and diluted muriatic acid, 15 drops in half a glass of water, three times a day. Within ten days she was practically well.

In reporting these cases of icterus, one simple and two malignant in form, I have not attempted to present anything new, but the disease being of such rare occurrence, and one of the patients suffering from a malignant attack having recovered, I have thought the report of enough interest to serve to refresh our minds in regard to this rare yet dangerous complication of pregnancy.

CLINICAL MEMORANDA.

CLINICAL NOTES FROM THE U. S. GENERAL HOSPITAL, FORT MONROE, VA.

BY DONALD MACLEAN, M.D., LL.D.,
MAJOR AND CHIEF SURGEON OF DIVISION, U. S. V.

IN a brief communication to the MEDICAL NEWS published July 30, 1898, in reference to affairs at this hospital, I promised information as to the result of the case of subclavian aneurism produced by a Mauser bullet. The patient suffered severely and grew gradually weaker. His father, a most intelligent man, came here from Tennessee and I took the utmost care to explain to both him and his son the true state of the case, namely, that the only chance for relief consisted in an operation, which held out a very slim chance of success, but *the only one*. I left the decision to themselves and before long the father came to me with the statement that both he and his unfortunate boy had decided to accept the chance of operation, which they had been frankly informed was a desperate one. Consequently I operated next day with the forlorn hope that the wounded artery might be the left carotid and the wound within reach of surgical treatment. The heroic father stood by my side and took in the whole procedure. My object was to secure the artery before the patient bled to death. This proved to be impossible and the poor boy bled to death on the table. The afflicted father, who witnessed the whole terrible and shocking scene, expressed himself as perfectly satisfied with our loyal efforts to save his boy and uncomplainingly accepted the melancholy result. Not only so but he most readily consented to any examination of the body which we wished to make.

We found, first, a long, irregular wound of the left subclavian extending almost to its origin. Second, a fracture of the transverse processes of the sixth and seventh cervical vertebræ. Third, fracture of the first rib. Fourth, fracture of the body of the scapula, through which the Mauser bullet had passed on its course to the surface. Notwithstanding the tragical nature and result of our efforts to save the life of this youthful hero we fail to discover any reasonable grounds for personal reflection or surgical condemnation. It was the only chance and we did all that could be done.

My friend, Dr. W. P. Chamberlain, First Lieutenant and Assistant-Surgeon, U. S. A., has kindly furnished me with notes of the following cases to be used as I think best:

H. S. H., aged twenty-eight years, private, Co. C, 22d U. S. Infantry, on July 17th, stated that he strained his back in January, 1898. Pain at times ever since, with attacks of fever and chills, the last one occurring July 4th. Sent to this hospital from Siboney on transport "Breakwater" July 19th. Forenoon, back better; slightly feverish. Afternoon, pulse 90; temperature 105° F.; pain in the back and legs much worse. No nausea; no epistaxis. Physical examination negative. July 20th: Feels better. Temperature, 102° F. July 21st: Pain in back and legs worse, otherwise about the same. Vomited his medicine (quinin); pulse, 80; temperature, 104° F. at night. Physical examination, negative, except slight enlargement of the spleen. Urine contains distinct trace of albumin. Patient was placed in a separate ward as a suspected case of yellow fever. July 22d: Less severe pain in back and legs; bowels moved with mild cathartic. Temperature, 102.8° F.; pulse, 88; respiration, 40. More albumin in the urine. Isolated with immune nurse. July 25th: Suspicion of yellow fever changed to typhoid and he was returned to his original ward under charge of Dr. Chamberlain. He suffered from slight cough and occasional subsultus. Abdomen tympanitic and covered with an abundant crop of characteristic rose-colored spots. Fever continued high till August 4th and then gradually declined, reaching normal August 10th, where it remained. The rose spots remained till August 3d. The bowels continued constipated, the pain in back and legs severe. There was retention of urine, necessitating the use of the catheter, and the pulse became very weak at times. The treatment consisted mainly in cold baths, whisky, milk diet, and daily enemata. Since August 13th he has been on light diet and in a wheel-chair, and is now convalescent.

This case is interesting from numerous points of view, but especially because of the sudden onset, the high fever with pulse not correspondingly high, the severe pain in the back and legs, and the albuminous urine, all of which, taken together, strongly suggested yellow fever in the case of a patient coming from an infected port.

Eleven men were afflicted with sunstroke, occurring in the vicinity of Santiago, except one, which occurred in Charleston. All were attended by loss of consciousness for periods ranging from five minutes to three hours in length. On recovery of consciousness all were suffering from severe headache, usually frontal and throbbing in character, except in the last case, in which the patient complained of a great feeling of pressure over the vertex.

About half the men complained of fever and nausea after becoming conscious and about the same proportion had visual troubles, usually darkening of vision or seeing streaks in the air. All had vertigo and ringing in the ears. Very severe headache lasted for periods varying in length from five to eighteen days. One month after the sunstroke about half the men were free from headache if in the shade, but all had severe headache come on upon exposure to the sun, in most cases associated with nausea and vertigo. Several of the patients were very nervous and were troubled with insomnia. Only one showed any mental change. His chief complaint was that his head felt "funny." He wore a startled, somewhat wild expression, and at times talked as if insane.

Injuries to Skull or Its Contents.—The following cases are of interest to compare with those of sunstroke:

B. S. H., aged twenty-four years, private, Co. F, 16th U. S. Infantry. Superficial perforating Mauser-bullet wound of scalp one inch above and behind the left ear. Track one and one-half inches long. Exit and entrance one-fourth inch in diameter and healed when first seen. Slight induration of track. No depression of skull. Occurred July 1st near El Caney. Patient lost consciousness for one-half hour and on recovering was bewildered, dizzy, and had severe frontal headache for eighteen days. Now (August 3d) is troubled with insomnia and slight vertigo on exposure to sun. Hearing normal in both ears. Thinks vision not quite as good as formerly in left eye. Has very slight ptosis of left upper lid.

W. P. H., aged twenty-eight years, private, Co. G, 12th U. S. Infantry. On July 1st a shell exploded within a few feet of him and he lost consciousness during half an hour. On coming to, blood was running from his nose, and on the following day he spat blood. Cough and spitting of blood at times ever since. Examination of throat and chest negative. Ever since has been extremely nervous and has a marked tremor of hands and limbs. Has ringing in ears, vertigo, and headache at times, aggravated or brought on by exposure to sun. Vision and hearing normal.

H. J., aged forty-two years, private, Co. F, 10th U. S. Cavalry. On July 1st shell exploded near him causing loss of consciousness for two hours. On coming to had severe headache and was deaf. Blood flowed from left ear. No epistaxis; no vomiting; no trouble with vision. August 2d: Has had dull, throbbing pain nearly ever since accident, confined to the left side of the head, running from occiput to external auditory meatus. Headache much worse on exposure to the sun. Hearing is much impaired in right ear and almost entirely destroyed in left. Little improvement in hearing or headache since arrival here.

K. B., aged twenty-one years, private, Co. I, 3d Kentucky Volunteers. Mother and father died of consumption. A brother and sister have cough and are called "scrofulous." Three brothers well. Three sisters and one brother dead, cause unknown. Never sick till present time. May 1st took cold, coughed, and was feverish for a week. Pain in left chest. Cough ever since. Has been on duty all the time but breath has been short. Dyspnea and cough on lying on right side. No fever. No chills. Measles began one week ago and entered hospital for that disease. August 15th rash of measles on face and chest. Much conjunctivitis. Brown coat on tongue. Left side of chest more prominent than right and moves less on respiration. Apex-beat of heart two inches to right of sternum. Percussion-note everywhere flat over left chest. Treube's semilunar space obliterated. Cardiac dulness two inches to right of sternum. Auscultation shows absent voice-sounds, diminished vocal resonance and tactile fremitus on left side. Respiration exaggerated on right. Cardiac sounds clear. Abdomen negative. Urine normal. Aspirated and one and one-half pints of creamy pus drawn off. After this operation cardiac dulness one inch to right of sternum. No resonance above left clavicle or scapula. Pus creamy and no odor. After being stained it showed decomposed pus-corpuscles and a few oval organisms in pairs. An agar-culture after twenty-four hours showed an abundant growth of oval organisms in pairs (diplobacillus) and a few large bacilli (probably a contamination).

August 16th: Under chloroform anesthesia an incision was made down to the seventh rib in the posterior axillary line, three and a half inches of the rib resected, about two quarts of pus evacuated, and a large double drainage-tube inserted. Six hours later the patient was perfectly comfortable. Cardiac dulness to right of sternum has disappeared; has continued to make rapid improvement, and appears to be thoroughly convalescent.

CALCULUS PYELITIS WITH PERINEPHRITIC ABSCESS. NEPHROTOMY; DEATH AFTER TWENTY-SEVEN HOURS

BY H. H. STONER, M.D.,
OF ROCK RAPIDS, IOWA.

MRS. H., aged twenty-seven years, married, of spare physique, had suffered during five or six years from vague pains in the abdominal region. Several times in the early history of the case she suffered from severe colicky pain, which was not diagnosed, or relieved by remedial measures. From the beginning of her ailment until June 1, 1898, she continued to perform her duties as housewife, the last two years of which were arduous. At this date she began to suffer from irregular fever, followed by profuse sweating but no rigors. Her temperature would sometimes rise to 103° F. during the afternoon, dropping to normal the next morning. At about this time she observed a tumor in the right hypochondrium.

The case came under my observation on August 6, 1898. Her family history was negative. The following condition was noted: She was weak and anemic; the heart beat was 116 to 124 per minute, and her afternoon temperature varied between 101° and 102.8° F. She also had profuse night-sweats. The facies portrayed unmistakably the presence of septic absorption. There was a sensitive tumor, about as large as a child's head, occupying the right hypochondrium two inches to the right of the umbilicus and two and one-half inches below the right

costal border. Percussion elicited dulness over the whole area of the tumor. There was a marked line of resonance between the tumor and ribs, which eliminated the possibility of it being connected with the liver. It moved with the diaphragm during respiration, although it was but slightly movable on palpation. There was an area of dulness on percussion in the right lumbar region, extending from the eleventh rib to the ilium and from the median line half way to the axillary line. An impulse applied to the loin was conveyed to the tumor in front. The urine was scanty, being about 16 ounces in 24 hours. It was highly acid, its specific gravity was 1030, and it was loaded with pus.

The diagnosis lay between tuberculosis of the kidney and renal calculus with pyelitis. That she was suffering from pyemia connected with a suppurative condition of the right kidney was evident. As an operation offered the only hope of relief, it was proposed and accepted. She was placed upon tonics for about ten days with the hope of improving her general condition, but without material success. She was, therefore, prepared for operation with the usual antiseptic precautions on August 20, 1898. She was placed in a semi-prone position with a sandbag placed beneath and pressing against the abdominal tumor. A transverse incision was made, beginning at the edge of the erector spinæ muscle, parallel with and one and one-half inches below the twelfth rib, which was supplemented by a longitudinal incision beginning at the lumbar end of the transverse one and continuing parallel with the erector spinæ muscle to the twelfth rib. This gave ample room for inspection of the deeper parts. The peritoneum was exposed in the outer extremity of the transverse incision. This was isolated with gauze, and a perinephritic abscess evacuated of about ten ounces of pus. The tumor proved to be the dilated right kidney which was tense and gave a vague sense of fluctuation. An aspirating needle was passed into the posterior surface of the kidney in the direction of the pelvis, and after traversing half an inch of kidney substance passed into a cavity from which thick, foul-smelling pus was aspirated. Upon manipulation within the pus-cavity the point of the needle came upon a stone within the pelvis of the kidney. A slender-bladed knife was now passed alongside of the needle and the incision dilated with the finger. The amount of pus evacuated from the kidney was estimated at sixteen ounces. At the bottom of the cavity and within the dilated pelvis of the kidney were three calculi, aggregating in weight 130 grains. The two smaller were easily extracted with forceps, but the largest, weighing 90 grains was embedded in the calices of the kidney and was removed with much difficulty. Owing to the adhesions and enlargement of the kidney it was thought best to establish drainage with a view of doing a nephrectomy later, if it became necessary. Therefore, after thorough irrigation with 1 to 5000 bichlorid solution, a rubber drainage-tube was placed in the bottom of the perinephritic abscess-sac, and a larger sized tube placed in the kidney cavity, and the wound closed.

During the operation the patient was twice given one and one-half pints of normal salt solution by subcutaneous injection. She was placed in bed in fairly good condition. Immediately after the operation urine began to escape from the affected kidney and continued to do so until 11 P.M., ten hours after the operation, when the patient began to suffer severely from shock, and the kidney ceased to perform its function. From this time on, in spite of stimulation, subcutaneous injections, external heat, etc., shock became more profound until she died, at 3 P.M., August 21st.

Except in cases of solid tumors of the kidney, and occasionally hydronephrosis, tumors of the kidney sufficiently large to be palpable through the abdominal parietes are seldom encountered. Sarcoma frequently produces a tumor whose manifestations are almost wholly confined to the abdominal region. Hydronephrosis sometimes assumes a degree of magnitude sufficient to distend the abdomen. For a purely pyemic process the size of this tumor is certainly interesting. Calculus pyelitis seems to have a peculiar predilection for the female sex, and an explanation of this may be found in the mobility of the uterus which, by its intimate connection with the bladder produces intermittent traction on the uterus, which by inducing a certain amount of inflammation in the pelvis of the kidney causes a secretion of mucus, by which a few crystals of the solids of the urine are cemented together, and the nucleus thereby formed for a future calculus. Or pregnancy, by pressure of the gravid uterus upon the ureters, may interfere with the flow of urine and induce hydronephrosis, which condition would be favorable to the development of renal calculus.

While it is true that many patients with nephrolithiasis go through the course of the disease with little suffering, yet this patient, except during the incipiency of the case, was more than ordinarily free from pain. She carried a stone in the kidney five or six years, a greater portion of which time she had pyuria, but not until septic absorption became pronounced did she awake to the fact that there was something radically wrong, and set about seeking relief from her condition.

MEDICAL PROGRESS.

The Disposition to Hernia and the Treatment of It.—KOCHER (*Correspondenz-Bl. f. Schweiz. Aerzte*, June 15, 1898) says that the disposition to hernia, about which opinions still differ so widely, is the most important point in the whole subject. Some writers claim that whoever develops a hernia must have had a previously formed peritoneal pouch in that situation, which by repeated pressure is gradually converted into a hernial sac; others are content to say that there was a congenital weakness of the fibrous layers, but no preformed peritonitic pouch, and yet others assert that every hernia develops in a well-formed congenital hernial sac, and that at the time of its occurrence some portion of the abdominal contents pass into the sac, thus separating the walls which before lay close upon one another.

That an anatomical disposition to hernia exists in many persons is shown by the fact that even in adults there is

often found in the inguinal canal and elsewhere such a peritoneal pouch as is above referred to, but which, except for some accident, remains empty; this is, however, not a hernia, any more than an adipocele in the inguinal canal is a hernia, though they both favor the development of one. It is often advantageous, now that the mortality from operation for rupture is so slight, to suture at the time of operation for inguinal hernia a weak inguinal canal, if such exists, on the opposite side to the already developed hernia. Such a disposition to hernia is manifested by a pouching forward of the canal upon coughing. The form of such a pouch is usually oval. Direct observation in such cases has shown that the disposition to hernia does not show itself, as was formerly stated, in the form of a small sac gradually pushing its way down the canal; but, that by the abdominal pressure, the peritoneum is pushed over Poupart's ligament in a rounded oval or conical process. The transversalis fascia remains at the internal abdominal ring, and the deep muscular layers are pressed apart to afford room for exit. The internal ring is also enlarged laterally, the epigastric vessels and the ascending ligamentous fibers being stretched and pushed toward the median line. The anterior wall of the canal is naturally stretched, and its fibers more or less separated. If the resistance offered by the external ring is greater than that of the canal itself, an interstitial hernia results. This is quite different from a properitoneal hernia, one which lies between the parietal peritoneum and the posterior surface of the abdominal wall.

While it is beyond a doubt true that a congenital hernia is due to the insufficient closure of the neck of the vaginal process of the peritoneum, one errs in attributing all herniæ to this anomaly. A congenital hernia can be recognized at operation by the fact that the testicle lies in the hernial sac, or that a combination exists with hydrocele of the cord, or that from the lower end of a closed hernial sac there extends along the cord a process reaching down to the tunica vaginalis containing often one or more cysts.

At operation it should be the aim of the surgeon to cure not only the hernia, but the disposition to the same, which according to Wood is a congenital sac in about one-third of the cases; and according to Roser is an adipocele in a large proportion of cases; and according to Berger is often a congenital weakness of the wall. Hence, his term "*hernie de faiblesse.*" In almost every instance there will be found to exist one of these three conditions.

For a fully developed hernia, Kocher considers his own operation the simplest and most satisfactory in its results; while for conical peritoneal pouches he advocates Bassini's method of treatment.

THERAPEUTIC NOTES.

Keloid and Intractable Inflammatory Patches Cured by Scarification.—LAWRENCE (*Brit. Med. Jour.*, July 16, 1898) twice excised a keloid of the right forearm of a man aged forty-six years. Each time it recurred as large and as painful as before. Though not at all confident of success, he was led by the discomfort which the growth caused the patient to make a further attempt to cure the trouble. With a five-bladed scarifier, the blades being one-twentieth of an inch apart, he made criss-cross incisions into the keloid and surrounding skin until the whole area was thoroughly cut up into squares, 400 of them to the square inch. Bleeding was encouraged by the application of hot boracic-acid dressings, and later the wounded area was dusted with iodoform and dressed with zinc-glycogelatine, and a piece of rubber tubing four inches long and three inches in diameter was applied to give continuous pressure. This was held firmly in place by strips of plaster, which did not entirely surround the arm, and thus did not interfere with the venous return. The dressings were twice changed at intervals of two days, and pressure with the rubber-pad was kept up for several months. During this whole period the scar was thin and pliable, and gave no pain. The pressure was then discontinued. Six months later the cure was still as complete as ever.

The same method of treatment has been employed with success by the writer in chronic patches of eczema, edematous lupus erythematosus, chronic patches of non-apparent catarrhal inflammation of the skin, with marked irritation as left after a general eczema, patches of chronic traumatic dermatitis, and intractable patches of chronic lichen planus. The incisions in these cases should be superficially made, and the blades of the instrument in all instances should be at least one-sixteenth of an inch apart, otherwise there is danger that some of the squares of skin will be torn away.

Salicylate of Nicotin for Scabies.—WOLTERS (*Rev. de Therap.*, September 15, 1898) recommends the use of salicylate of nicotin in the treatment of scabies. The drug occurs in fine white crystals readily soluble in water. These are ground and made into an ointment containing $\frac{1}{10}$ per cent. of the active principle. Lanolin makes a good base to the ointment. Of sixty-seven patients upon whom this treatment was tried sixty-four were cured by a single application. The remaining three were greatly improved, but it required several applications of the salve to destroy utterly all the parasites. Three patients returned after a certain time complaining of a recurrence of the disease but investigation showed that there had been reinfection from an external source. This ointment was most agreeable to the patients, being invisible, odorless, and unirritating. There were no symptoms of intoxication in any instance.

Vasogen as a Vehicle for Iodin.—FRIEDLAENDER states that iodin is rapidly absorbed through the skin and mucous membranes when it is mixed with vasogen (oxy-vaselin). It is used in the strength of 6, 10, or 20 per cent. of iodin, generally 6 per cent. Its use is advised for various ills, such as sciatica and intercostal neuralgia, ulcer of the leg, enlarged glands, blenorrhagia, epididymitis, and in gynecology for cervical ulcer, and parametritis.

THE MEDICAL NEWS.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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Address the Editor: J. RIDDLE GOFFE, M.D.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK.

Subscription Price, including postage in U. S. and Canada.

PER ANNUM IN ADVANCE	$4.00
SINGLE COPIES	.10
WITH THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, PER ANNUM	7.50

Subscriptions may begin at any date. The safest mode of remittance is by bank check or postal money order, drawn to the order of the undersigned. When neither is accessible, remittances may be made, at the risk of the publishers, by forwarding in *registered* letters.

LEA BROTHERS & CO.,
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AND NOS. 706, 708 & 710 SANSOM ST., PHILADELPHIA.

SATURDAY, NOVEMBER 12, 1898.

THE visit of Mr. William Antivaccinationist Tebb to this country should not be allowed to pass unnoticed, particularly as he is here to propagate the antivaccination craze. We have no doubt that if he expends one-half the energy and money here which he and his deluded fellow-workers have spent in England, such outlay will be rewarded by a considerable following, particularly if he operates in the hysterogenic zones of eastern New England, and in those portions of Canada in which mental compulsions and obsessions are endemic. The annals of spiritualism, faith cure, Christian science, osteopathy, and antivivisection, not to speak of the innumerable religious and mystic cults and other psychoses that have taken root here during the past half century, portend a warm reception to any fad, particularly if its understanding surpasses reason, common sense, and science.

Mr. Tebbs believes it to be his mission to start na agitation in this country against regulations of health boards which make it necessary for children to be vaccinated before they can enter the public schools, and also against the Federal law requiring all immigrants to be vaccinated. Furthermore, he plans to hold the next International Antivaccination Congress here, the object being to enlighten the public concerning the evils of vaccination. Mr. Tebbs avers that he has in his possession pictorial proof that the health of some immigrants has been injured by vaccination. Poor immigrants! Poor Mr. Tebb! We commiserate you, Mr. Tebb, and trust that the burden of these proofs is not greater than you can bear. We must inform you, however, that deeply rooted in the minds of the American people is a conviction which reads: "You can fool some of the people all the time, and all of the people some of the time, but you can't fool all the people all the time."

DR. STUART TIDEY of London, in a letter to the *British Medical Journal*, October 22d, describing a visit to the Hospital of San Giovanni, at Turin, Italy, says: "What I wish most to record was the discovery there, worked out in the concrete form of mechanical and physical contrivance, of a method of treatment which I had hitherto believed was especially my own. On entering the laboratory I saw an apparatus for the preparation of some gas, and on asking the professor (Carlo Forlanini) its use, he said: 'It is for the evolution of nitrogen to inject into the pleural cavity and compress the pulmonary parenchyma in unilateral tubercle of the lung.' 'What results have you obtained?' I asked. 'They all get well,' he replied. I then asked the professor if he knew that his method was being practised in America. 'No,' he replied, 'I have practised it for ten years and they must have gotten it from me.' He told me further that when the diseased portion of lung had healed the healthy portion expanded and reoccupied the space from which the nitrogen gradually disappeared." It thus would appear that Murphy's injections into the pleural cavity had been anticipated.

EVADERS of the law are notoriously fertile in resources which save them from its grasp. Oftentimes they are so clever that despite the perniciousness and iniquity of their purpose their shifts compel a sense of admiration. We are prompted to these remarks by the receipt of a sheet bearing the pretentious title "United States Health Reports," and the subtitle "The American Authority on Matters of

Health, Sanitation, and Hygiene," stamped on a streaming banner clutched in the mouth of an American eagle, which is perched on a staff flying the American flag; all of which gives the sheet an appearance of authenticity and officialness, qualities which, no doubt, the perpetrators of the reports would have the unsuspecting reader believe it possesses. The leading article is entitled "A Model Home for Invalids," and as this was blue-penciled it was evidently intended that it should attract attention. We are glad to be able to meet half way in this respect its author, one Alonzo B. Carrier, M.D., a name unknown to us, and we venture to think also to fame.

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The author introduces his subject by the very questionable statement that "In the treatment of diseases peculiar to woman, including the usual accompanying nervous manifestations, very much depends upon the environments of the patient." There is more in that simple statement, however, than a person who does not read further would suspect. The writer then goes on to say that for the protection of his readers and patrons who recognize his sheet as the American authority in all matters relating to health—God save the mark—that in response to inquiries concerning the general reputation and character of an institution conducted by Dr. ———, No. —— ——— street, and the advantages claimed for his home for women ill or *in trouble*, he decided to investigate it. Dr. ———, he states, is so thorough in his practice that he has become indispensable to his professional brethren, who frequently avail themselves of his services in delicate cases. Moreover, "Dr. ——— gives personal attention regarding any trouble ladies find themselves in, and insures absolute privacy, *a minimum amount of risk, with maximum benefit.*" Alonzo B. Carrier, M.D., then draws his eulogistic article to a close, but not without saying that appointments can be made by letter or in person with Dr. ———, and that he cordially extends to Dr. ———'s home and method of treatment the unqualified editorial and official endorsement of the "United States Health Reports."

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Although we have no fear that any reader of the "United States Health Reports" will not fully understand the purport of Dr. ———'s home and the endorsement of his method of treatment by Alonzo B. Carrier, M.D., we, nevertheless, feel it a duty to ourselves and to our readers to say a word concerning Dr. ———, whose advertisement may be found in all the daily papers, and who is already well known in the police annals of this city. About eight years ago a young man of respectable appearance, a graduate of the Hahnemann Medical College of Chicago, and a son of a reputable clergyman, came to this city and opened an office in Lexington avenue. He made a few professional acquaintances, but depended for a clientele upon a card which he had inserted in all the daily papers, calling attention in an insinuating way to the success which he had "in getting ladies out of trouble." His business was soon very lucrative, apparently, for his horses and carriages were numerous, and every day he was to be seen constituting a conspicuous member of the fashionable throng that makes the east drive in Central Park its own, from three to five in the afternoon. Not content, however, with making such vulgar display of ill-gotten wealth, he must needs remove to a fashionable part of the city. That he might be within reach of the then most potent limb of the law, he leased a mansion next door but one to that of Inspector Byrnes.

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The longest lane eventually has a turning. One morning the daily press announced the fact that a young girl had died from the results of a criminal abortion, and on her death-bed she swore that Dr. ———, whose house and methods are now receiving the endorsement of the "United States Health Reports," had performed a criminal operation upon her. He was arrested, locked up, and eventually released under heavy bonds. The day of his release was the day of his disappearance. He fled, at least let us hope that he fled, and nothing more was heard of the matter for about two years. In the interval the city government underwent something akin to a revolution. The district-attorney's office was rehabilitated. Many indictments had been mislaid or were quashed, or something had transpired to make them no longer operative. And the quack came back.

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This may or may not be at the present time a

wide-open town, but it depends entirely upon the interpretation put upon these words which have now come to have a very expressive meaning, whether or not it deserves to be so called. We venture no opinion. Despite this, however, it seems to us that we have called attention to one of the most nefarious, loathsome, abominable, and abhorrent advertisements that can possibly exist. Not content with advertising in the daily press in such an insinuating way that even a terminal dement would understand the purport of his words, here is an individual who, despite the fact that he has already been within the clutches of the law, is yet parading his infamy before the public under the guise of what he would have us believe is a legitimate journal established for legimate purposes. We particularly call the attention of the County Medical Society to this man and his advertisements, and at the same time say to Alonzo B. Carrier, M.D., that he is either an accomplice or a stool-pigeon who is so highly perched on a pedestal of infamy that he will find great trouble in coming down even with assistance.

THE recent episode at Vienna brings bubonic plague into prominence once more and renews interest in the fact that it is still epidemic at and around Bombay. This would seem to indicate that the much-talked-of inoculations had been a failure, yet such does not appear to be the case. According to the *Times of India*, the experience with protective inoculations at Hubli is most satisfactory. The district contains 40,000 people, of whom about 35,000 have been inoculated to date.

By far the great majority of the cases of plague that have occurred have been among the uninoculated, despite their disparity in numbers to those inoculated. During the first week of September among 32,000 inoculated there had been but 69 cases of plague reported, while among 8000 uninoculated there were 417 cases. An ungrounded fear of the results of inoculation, a distrust of the foreign Christian medical men, that instinct of opposition to government which characterizes the lower classes in all countries and finally, and most important, religious scruples in the matter have prevented that universal application of inocultaions in any one district that might furnish a striking proof of their protective power. We cannot help noting here in passing that the British government is having a serious time of it regarding religious or conscientious scruples in the matter of the effort to protect her people against the ravages of contagious disease. While in India religious objections stand in the way of inoculations against plague, in England itself conscientious scruples are now an all-sufficient reason for the avoidance of the vaccination law. Verily, conscience seems to masquerade at both ends of the Empire under a mantle whose folds hang strangely like those which have clothed ignorant, obstinate superstition in all ages and climes. For this sort of thing in matters where public health is at stake, there should be no squeamish consideration dictated by a false conservatism and an undue regard for personal liberty and so-called religious prejudice.

FRACTURE OF THE SPINE.

AT the present day there is a growing tendency, based upon the successful results that have followed operative procedure in suitable cases, to operate in cases of fracture of the spine. Moreover, the class of suitable cases has been much widened by recent experience along this line, so that it includes most of the fracture-dislocations, the fractures of the neural arch, hemorrhage, and secondary inflammatory exudate. Outside of this class there must remain the severer injuries to the cord from overflexion and direct crushing by bone, in which total paralysis is instantaneous and complete division of the cord is the only explicable lesion. Operative interference will meet with most success in those cases in which the injuries involve the lumbar or lower dorsal region, and in which the operation of laminectomy is done immediately. Operative experience, furthermore, has demonstrated fully that cord degenerations from a continued pressure are rapid and that the higher the injury and the seat of operation the greater the danger.

The difficulties and the uncertainties of diagnosis are many. The considerations presented to the surgeon by such a patient are, first, the symptoms of the fracture of bone, crepitus, undue mobility, localized pain, loss of function and deformity, and secondly, the symptoms of paralysis. Any surgeon with experience knows that he is doing his patient the greatest possible harm if he attempts to elicit the crepitus or the undue mobility. He knows that lo-

calized pain and loss of function may follow a mere sprain; and it is a fact that some of those cases which show almost no deformity are the, now frequently recognized, fractures of the laminæ which give best results from operative interference. Nor is he given great assistance in his decision by the nerve symptoms, in view of the fact that the cord of an animal may be repaired after total division and certainly that of a man after hemisection. Furthermore, there are many reported cases where entire recovery or improvement has followed severe injuries to the spinal cord itself.

These points must lead to uncertainty as to the exact lesion present and in the light of the lessened danger from the operation, and the recent observations regarding the frequency of fracture of the neural arch there seems a justification for an exploratory operation in many of the cases. The experience of operators up to the present time has demonstrated beyond doubt that serious hemorrhage from the operation is not to be feared, that the loss of cerebrospinal fluid is without consequence, and that the removal of the spinous processes and laminæ from a number of vertebræ does not materially weaken the stability of the vertebral column. Some subjects improve rapidly and are cured, in others the improvement is slow and never complete, while some show no improvement whatsoever. Yet even a small percentage of cures or even of improvement is a sufficient justification for the operation, when a condition of actual pressure is relieved thereby; and this probability must be placed against a certainty that no improvement can follow a policy of non-interference. This probability of improvement gains force from the uncertainty that must always exist as to the extent of cord injury, and from the amount of repair that sometimes does follow a prompt removal of pressure. There are very few surgeons who would not advocate operation in a depressed fracture of the skull with cerebral symptoms. The indications for the operation under discussion must be the relief of pressure from bony parts, the evacuation of blood-clots causing pressure, the arrest of hemorrhage, and the correction of the deformity of the spine. The chief and practically the only indication is, in reality, the relief of pressure on the cord, to favor a re-establishment of function, and oppose secondary ascending degeneration.

As previously stated these remarks apply, more especially, to the lumbar and dorsal injuries, but there is no reason aside from the increased danger of operation why the same procedure may not be adopted in cervical fracture. The cervical region seems the one to which extension and manipulation is best adapted, yet this procedure possesses a forbidding danger to the patient from a possible sudden death during the manipulation. One reason for infrequent operation in former days was the conclusion that the crushing injury to the cord was in most instances caused by the sharp upper border of the body of the lower vertebra. Facts opposed to this are a displacement, less extreme, in most cases, than was formerly supposed; the frequency of the fracture of the laminæ as a pressure and destructive cause; and that the removal of a lamina in a marked displacement has been followed by improvement.

ECHOES AND NEWS.

The American Medico-Psychological Association.—The annual meeting of this society will be held in the city of New York on Tuesday, Wednesday, Thursday, and Friday, May 23 to 26, 1899. C. B. Burr, secretary.

Professor Braun's Twenty-fifth Anniversary.—An ovation was tendered October 14th to Professor Braun, the director of the Obstetric Clinic in the General Hospital, Vienna, on the twenty-fifth anniversary of his occupation of the position.

Sickness in the Camps.—At the hearing before the subcommittee of the War Investigation Commission at Harrisburg, Pa., it was claimed that the sickness among the soldiers was caused chiefly by the dainties which their relatives and friends sent them.

Spanish Soldiers Home.—The steamer "Montserrat," with 1788 troops from Cuba on board, arrived at Cadiz, Spain, November 2d. There were ninety-seven deaths on the voyage. Eight hundred of the soldiers were sick, and many of them in a dying condition.

A Plucky Doctor.—Dr. Trevor, the ship surgeon of the ill-fated "Mohegan" that recently struck on the "Manacles" off the south coast of England, escaped with his life but was rescued only after he had clung to the masthead of the vessel for about seven hours.

Professor Stricker's Successor.—Professor Phillip Knoll, the Professor of Experimental Pathology at the German University of Prague, is to succeed to the Chair of Experimental Pathology at the University of Vienna made vavant by the death of Professor Stricker last year.

Yellow-Fever Hospital at Santiago Closed.—The last and only remaining case of yellow fever in the yellow-fever

hospital at Santiago was discharged cured November 2d, and the hospital was closed. The total sick at Santiago November 4th numbered 1113; fever cases of all kinds, 613.

Death of Doctor O'Flanagan.—Dr. O'Flanagan, the author of a book called "Medical Men and Manners of the Nineteenth Century," which created quite a sensation in English medical circles some twenty years ago, died recently at Houghton-le-Spring, Durham, England, from meningitis.

The Fordyce Barker Memorial Bed.—Mrs. Elizabeth Lee Barker has given by will to St. Luke's Hospital, New York, $5000 in perpetuity as a memorial to her late husband and their son, to be used for founding and supporting a memorial bed in the hospital, to be known as the Fordyce Barker Memorial Bed.

Guarding against the Bubonic Plague in Asia.—The commission charged with the duty of taking precautionary measures against the bubonic plague has engaged a staff of forty doctors, who will proceed immediately to Samarcand, Turkistan, where, as stated last week, there has been quite an invasion of the disease.

The Influence of Character and Right Judgment in Medicine.—Sir Dyce Duckworth, in an address with the above title, relates that Matthew Beattie once observed: "I am persuaded that the most successful treatment of patients will depend upon the exertion of sagacity, or good common sense, guided by a competent professional knowledge; and not by following strictly the rules of practice laid down in books even by men of the greatest talents and experience."

An Extra-State Consultant for a New York State Institution.—The announcement is made of the appointment of a Philadelphia ophthalmologist as consultant to Craig Colony for Epileptics, situated at Sonca, New York. Have we perhaps no New York ophthalmologists capable of filling the position, or is there some other equally good reason for going out of the State to find a consultant for what is practically a State institution?

The New Royal Member of the Profession.—Marie, the young Queen of Portugal, who has been known for some time to be engaged in the serious study of medicine, is now reported to have received her formal degree of doctor of medicine. Rumor adds that her first patient is her husband, whom she is treating for obesity, and that so far the new M.D. is satisfied with the results of the treatment. There would seem to be depths in connubial felicity, even beyond having to pass judgment upon the creations of a wifely dilettante in the culinary art.

Health of the Philippine Army.—The climatic conditions at Manila are changing for the better, and it is hoped that the advent of the dry season which is approaching will see a great improvement in the health of the troops. The surgeons' returns show about 1800 men on the sick-list, and the weekly mortality for the past month has averaged about eleven. General Otis has issued a general order permitting the surgeons in charge of regiments or independent battalions to spend 30 cents per day for delicacies for each man on the sick-list. This will probably result in a reduction in the number of sick.

The Dress of Women Students of Medicine in St. Petersburg.—It would appear from an edict recently issued in St. Petersburg that the women students of medicine will hereafter be required to wear a distinctive dress. When they assembled at the beginning of the autumn session they found a notice conspicuously posted in the classrooms not only prescribing the color and cut of the dress, but also enjoining the purchase of the material at a particular establishment and the making of the garment at a specified place. This edict appears to have issued from the police instead of from the Education office.

"Posed as a Doctor to Wed a Pretty Girl:" This is the line-heading of a pathetic story in one of the daily papers. The wooer won and wed the maid. After marriage everything went on happily until the bride learned her husband was really not a doctor. Then life was *not* "all one grand sweet song"; in short a separation resulted. He may have been a good husband in other respects; but he was not what she had married him for—a doctor. The story further tells that this pseudo-doctor "had money." Who could blame the young lady? Beats there the feminine heart which would not succumb to a combination so rare as a doctor with money.

Berlin Aroused about the Plague.—There has been considerable alarm in Berlin owing to the plague at Vienna, and the Government has deemed it necessary to allay popular anxiety by announcing that no experiments similar to those which led to the outbreak at Vienna are permitted in the Berlin laboratories. It is said, however, that private research for Asiatic cholera germs is proceeding in the laboratories of scientists like Professors Virchow, Leyden, Koch, and others, and the *Cologne Gazette* urges the Government, and justly, to take measures to prevent infection by requiring an official permit for such experiments, which, it is claimed, should be restricted to specially isolated buildings.

Smallpox in Cuba.—A report made to General Wood November 4th, by Captain R. S. Woodson, surgeon of the regular army, who accompanied Colonel Hood's six companies to Gibara, says there are more than 5000 cases of smallpox in Holguin and its vicinity, and several hundred at Gibara. The smallpox has continued uninterruptedly more than three years, the Spanish and Cuban authorities making little intelligent effort to overcome it. The form of the disease is most malignant and the recoveries few. The mortality is increased by the unhygienic modes of living. Captain Woodson advises sending no more troops till the epidemic is checked or the isolation of the sick accomplised. He established at Gibara a smallpox hospital with 150 beds, isolating 200 cases.

Sioux Indian Nurses.—At the Third Division hospital, Jacksonville, Fla., are a number of patients, who, when they are restored to health, can have the distinction of

saying that they have been nursed back to health and strength by the work of four sisters, who are direct descendents of some of the Sioux tribes of Indians of the Dakotas. These women are distinctively Americans and represent the entire order, of the Congregation of American Sisters, as it to-day exists in the United States. Only Indian girls are admissible to the ranks. The order volunteered to go to the front when the war broke out, with the end in view of following up the line of battle, and of taking care of the fallen and wounded on the battle-field, but it was only recently that their proffered services were accepted.

Treatment of the Insane in Persia. — An English missionary in Persia, in speaking of the backward condition of that land in nearly all directions of charitable and correctional effort on the part of the native population, says that there are no hospitals, no dispensaries, and no lunatic asylums. The harsh treatment of insane patients is thus described: "The dreaded lunatic is chained, his feet fastened in the stocks, is constantly beaten and half-starved, with the idea that if badly treated, the devil will the sooner leave him. And then, as a last resource, when the friends have grown tired of even this unkind care of their relative, the lunatic is given freedom in the desert. His hands are tied behind his back, and he is led out into the desert and is never heard of again. There are no homes for the blind and crippled, and none for the incurable in this land."

The Time When the Greatest Number of Deaths Occurs.— The time of day when the greatest number of deaths and births occur has been answered recently in the *British Medical Journal* by Professor Raseri, who has carefully investigated a large number of statistical reports for information bearing on the problem. With the statistics of 25,474 cases of death and 36,515 cases of birth, he has found that the maximum number of deaths occur between two and seven o'clock in the afternoon, while in the early hours of the morning there are the greatest number of births, and in the early afternoon the smallest number. The coincidence of the time of the maximum number of deaths with the hours when the pulse-rate and temperature are at their highest point in health, and when there is a febrile exacerbation in case of illness, has been offered as the explanation of this fact.

His Heart in His Boot.—In the *New York Medical Journal*, November 5, 1898, it is told how one of Sir Henry Ketchener's officers was shot above the left nipple and recovered from the wound. When his surgeon expressed wonder that the ball had not entered his heart he said it had not probably because his heart was in his boot at the time. This recalls a conversation which the writer had with Ex-Governor O'Farrell of Virginia, who, while a Confederate soldier in the Civil War, had been shot five times, and had received three sword wounds. One bullet entered just beneath the heart and came out at the back. Doctor Hunter McGuire attended him at the time. After the then Colonel O'Farrell's recovery, Doctor McGuire said he wondered how he had not been shot through the heart. The Colonel said it must have been because his heart "was in his mouth" at the time.

The New Army Hospital at Savannah.—Twenty-one acres of ground has been secured for the hospital at Savannah, Ga., and it is said that the establishment will cover the whole tract, and be the largest hospital maintained under the auspices of the Federal government. The ground plan of buildings will be rectangular, with covered ways connecting all of the buildings with each other, and with the administration building in the center of the group. There will be forty-nine buildings in all. The cost of the Savannah establishment is to be $150,000. The material used will probably be Georgia pine. The buildings are to be designed and constructed with a view to permanency. Each building will be ceiled inside and under the floors. Each of the four sides of the quadrangle will contain a ward capable of accommodating 250 single beds, with ample space between, making room for 1000 beds in all. One ward will be set aside for surgical cases, and an enclosed passage-way will connect it with a modern operating-room. Besides the general wards there will be private sick-rooms for the accommodation of invalid officers. The plumbing is to be of a permanent character, and the drain-pipes will be connected with the city sewer system. The artesian water-supply will be unlimited. The heating will be by means of coal base-burners. It has not been decided whether the lighting will be by electricity or gas, but both are immediately at hand. There is an ice factory within fifty yards of the site, and ice is 15 cents per hundred pounds by retail. The officers' quarters will be of two stories. The dormitories for the nurses and hospital corps will occupy two buildings. The chief surgeon will have a private residence.

Two Instances of Scientific Intuition.—One of the notes to Sir Dyce Duckworth's Harveian oration (as published in the *Lancet* October 22d) is of interest just now since the plague has come prominently before the public again: "Athanasius Kircher wrote in 1659, two years after Harvey's death, that 'the propagators of plague are little worms so small, fine, and delicate that they cannot be recognized by the senses.' It was left for the Japanese bacteriologist, Kitasato, to discover in 1893 the bacillus of plague." A passage quoted from Harvey's "Anatomical Exercise" (lvii) on the generation of animals affords an equally striking example of intuitive prevision on Harvey's part, respecting the reaction of the bodily tissues in inflammation. In it we have an anticipation of what is usually thought to be the most distinctly modern feature of the doctrine of inflammation. Referring to the effect of spider poison when introduced by a prick under the skin he wrote (translation ours): "The skin at once draws itself up into a prominence around the very spot where the puncture has been made and puts on, after a short time, the redness and heat of inflammation as if to gird itself for the combat and strengthen itself for the expulsion of the harmful agent." Sir Dyce Duckworth adds: "What have we here but a forecast of the modern researches of Metchnikoff and others upon the action of phagocytes in inflammatory foci? The idea

of a contest in the involved tissues was, I think, singularly prophetic of the histological discoveries to be made 230 years later and displays the intuition of Harvey in his study and interpretation of the secrets of Nature without any other aid than his simple vision."

SELECTION.

THE QUARANTINE STATION OF CAMARAN IN THE RED SEA.[1]

THE committee on construction of the lazaretto at Camaran reported the result of its labors on March 17, 1898, and later presented a supplementary report at the session of the council held August 20, 1898. The basis of the report was a statement drawn up by Engineer Roullet under direction of Dr. Stiepovich, secretary of the superior council of health, detailed for service at Camaran. This statement covered the work executed at Camaran up to May 25th of the current year. The work comprised six hospitals; 12 houses for persons of rank; 1 building for machinery, with 1 annex and accommodations for engineers, apparatus for distilling sea-water, ice-plant, steam saw, repairing-shop, etc.; 1 building for the accommodation of the personnel, officers, pharmacy, and for storage; 5 small houses for lodgings for guards; 1 water-tower with ice-house in its lower portion; 1 building to accommodate the steam plant, brick, tiles, plaster mill, and large storeroom; 8000 meters (about 6 miles) of railway laid; 2 cisterns cut in the rock and reservoirs with a capacity of more than 4000 tons; 2 conduits of fresh water which supply the cisterns; 1 conduit for supplying fresh water to vessels at the Mervani jetty; 1 conduit supplied from the wells on the main road, with cisterns and filters at the wells; 47 pavilions for latrines, with 24 sinks and 94 basins; 1 steam brick and tile plant with drying spaces; 1 plaster workshop with crusher; inclosed spaces for storage; lodgings for workmen.

The lazaretto of Camaran is arranged to receive 4000 pilgrims at one time, but the present buildings and those which it is proposed to erect will accommodate 6000. The following is a brief description of the work completed and in place:

1. A large structure which accommodates the inspector and physicians, and contains offices, a pharmacy, and a storeroom for supplies. It is a brick building on a stone foundation. On the ground floor are the offices, pharmacy, and supply department. Above, on the first floor, are the apartments of the inspector and the eight physicians, and the bathrooms. The building is surrounded by a veranda, forming a circular gallery 3 meters wide, on the ground floor and first story, and affording complete shelter from the sun. The plan of construction adopted secures perfect ventilation and prevents suffering from heat. To the northeast of the building is a pavilion containing latrines.

2. Five small brick buildings roofed with wood and tiles, each being 9 meters in length and 4 in width. Two of these buildings are used, one as a workshop for the manufacture of cement blocks, the other for the manufacture of sewer-pipes. The first contains a hydraulic press, the second molds and models for tubing.

3. Machine house. This building is 25 meters long by 20 wide and 12 high. It is constructed entirely of stone, the walls being 0.80 and 60 centimeters thick. The roof is iron, covered with brick. Ventilation is so carefully provided for that the temperature in the sections containing the distilling apparatus is lower than in the offices. On the south side of the building is an annex, 10 meters long by 7 wide, containing a "mirrless" generator, a forge, and a repair shop. The machines are installed on the ground floor of the building, and comprise a refrigerating-plant, pressure-pumps, condenser, receivers for fresh and sea water, for use in condensing sulphuric acid, apparatus for the distillation of sea water (yarrand), a De-Naeyer generator, a steam-engine of 40 horse-power, a pump for feeding the two water-receivers, and a steam saw. All the plant is worked by a transmitter set in motion by the motor attached to the ice-plant. The kitchen opens on a wide and airy corridor. On the east and west fronts is a veranda 2 meters wide. On an elevation of 5 meters on the north front is a magnetic filter, through which water passes to the conduits. In the courtyard of the machine-house is a small structure to receive kitchen refuse.

4. A stone building constructed on a small hill overlooking the machine-house and serving as a water-tower and ice-house. It contains 8 reservoirs of fresh water of 140 tons capacity and an ice-machine of 60 tons capacity. The building is 16 meters long by 10 wide and the walls are more than 3 feet thick. All the buildings at Camaran are whitewashed as a protection against contact with the air, which would otherwise disintegrate the brick and stone.

The delegate of England, Dr. E. D. Dickson, protested against the establishment of a bacteriological laboratory at Camaran, not only on account of the expense which it would entail, but because in the present state of our knowledge of bacteriology a laboratory of bacteriology would in many cases furnish diagnoses at variance with the clinical symptoms observed and thus embarrass the regular course of restrictive measures in force at the lazaretto.

[1] From advance sheets of the weekly report of the United States Marine Hospital Service. This quarantine station on the Red Sea in its completeness and substantial character might well be taken by our Government as a model for its quarantine establishments.

CORRESPONDENCE.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

THE NATIONAL RELIEF COMMISSION—HOSPITAL NOTES—MEDICO-LEGAL SOCIETY—SEMICENTENNIAL OF BUCKS COUNTY MEDICAL SOCIETY—ABSCESS OF LIVER; GALL-STONES — PORRO'S OPERATION — OBITUARY—HEALTH STATISTICS.

PHILADELPHIA, November 7, 1898.

PRESIDENT Converse and Secretary French of the National Relief Commission are going to Washington for a conference with Secretary Alger as to the future work of

the commission, a feeling being prevalent that much of the work now being carried on by it properly belongs to the Government. The total contributions to date are $78,405.40 and supplies to the value of $40,345.00 with which a vast amount of good has been accomplished, supplies of all kinds being still forwarded to the camps even at this late date.

Hospital trains under various auspices continue to bring large numbers of sick soldiers to the city almost daily, but now that the Government is over its "rush" work, probably in the near future there will be a speedy diminution in the number of arrivals. An interesting phase of this hospital care of soldiers is the matter of compensation by the Government. As is well known compensation is to be made, but one of the hospitals most anxious for a large number of patients has been making, and with success, strenuous efforts to collect money from the public for this work. Right and left persons have been solicited and no efforts spared to induce them to help this charitable (?) work along. To the ordinary observer it seems a little queer to solicit help for the performance of work which is to be paid for by the Government and comments are freely made as to the impropriety, to say the least, of these methods.

The corner-stone of the Phœnixville Hospital, which has just been erected at a cost of $25,000, was laid Saturday afternoon; it is of brick and Indiana limestone, with marble trimmings, and three stories high. Dr. M. W. Snell is to be resident physician with Drs. Rhoads and J. Chalmers Da Costa of this city consulting surgeon.

At the quarterly meeting of the Medico-Legal Society the following officers were elected for the ensuing year: Dr. E. V. Wheeler, president; Dr. A. M. Eaton, first vice-president; Dr. L. H. Adler, second vice-president; Dr. S. M. D. Peltz, treasurer; Dr. C. H. Clewell, secretary; Dr. J. D. Nash, librarian.

The Bucks County Medical Society celebrates its fiftieth anniversary last Wednesday at Doylestown, many good papers being read and a jubilee being held in the evening. The following officers were elected: President, Dr. O. H. Fretz; vice-presidents, Drs. R. C. Faulke and A. S. Wilson; secretary, Dr. A. F. Myers; treasurer, Dr. Frank Swartzlander.

Among the interesting papers read before the Philadelphia County Medical Society, October 26th, was a report on some abdominal cases by Dr. Mordecai Price. The first case, "Abscess of Liver; Gall-stones," occurred in a patient with a tumor, the diagnosis of which was obscure. After an incision had been made, the kidney was found to be normal and the gall-bladder empty, but the liver, which extended to the brim of the pelvis, was full of pus as determined by the insertion of a small hypodermic needle. Twenty-four gall-stones were removed, their presence in the liver being due probably to an ulcerated, overdistended gall-bladder which had caused the abscess and as this abscess enlarged, the stones were gradually forced from the gall-bladder into the liver.

The second case was a "Porro Operation at Term" in which a large fibroid in the birth-canal complicated labor. Dr. Price is an enthusiastic advocate of Porro's operation, and, as in the case above, claims that both mother and child can be generally saved while Cæsarian section has a high mortality.

Dr. H. L. Williams reported to the Pathological Society two cases of "Accessory Thyroid at the Base of the Tongue," and Dr. Muehleck presented specimens of pyonephrosis from a case in which the clinical diagnosis had been typhoid, lobar pneumonia, and enlargement of the liver. Although Widal's reaction had been positive, the post-mortem showed no evidence of typhoid, nor was the liver enlarged.

Dr. Robert Lawry Sibbett died this week from paralysis at Fairfield. In 1873 the Medical Society of the State appointed him Chairman of the Committee on Medical Legislation, and to him is given much of the credit for the passage of the Registration Law. He was President of the Section on Obstetrics at the Ninth International Medical Congress, held at Washington in 1887.

The total number of deaths occurring in Philadelphia for the week ending November 5th, as reported at the Health Office, was 394, of which 82 occurred in children under 5 years of age. The total number of new cases of contagious diseases for the week was 280, reported as follows; Diphtheria, 89 cases, with 33 deaths; scarlet fever, 21 cases, with 2 deaths; typhoid fever, 170 cases, with 14 deaths.

MEDICAL MATTERS IN CINCINNATI.

[From a Special Correspondent.]

CASE REPORTS AT THE ACADEMY OF MEDICINE—THE NEW PRESBYTERIAN HOSPITAL—THE MIAMI VALLEY MEDICAL SOCIETY—GIFT TO THE CINCINNATI UNIVERSITY.

CINCINNATI, November 7, 1898.

THE meeting of the Academy of Medicine, October 31st, was devoted to case reports. Dr. C. R. Holmes presented a patient who had received a gunshot wound of the head. The ball had glanced from the orbital prominence, struck the sclera without lacerating it, and had lodged in the soft parts of the malar region. The internal structures of the eye were ruptured by transmitted force. Dr. Heidingsfeldt presented a patient with a birthmark who had been treated by the electric needle, and Dr. H. J. Whitacre a patient who had suffered from a ruptured middle meningeal artery, upon whom an operation had been performed.

Dr. C. A. L. Reed showed gall-stones from three recent cases. One collection contained 360 stones of uniform size and beautifully faceted. Another specimen had been removed from the common bile duct. The latter was of interest because of its unusual size. The stone was oval in shape and measured 2 cm. in its long diameter and 12 mm. in its short diameter. Dr. Edwin Rickets reported a case of pregnancy at term in a carcinomatous uterus, in which hysterectomy had resulted in death. Dr. Benjamin Lyle presented a specimen of aneurism of the aorta; also, specimens demonstrating two stages of the spontaneous healing of tuberculous deposits in the lung. Dr. E. W. Mitchell reported a case of sudden

death from angina pectoris. The patient had been a man of unusual health and vigor and never had suffered from symptoms referable to the heart previous to the attack of angina which came on two hours before his death.

The opening of the new Presbyterian Hospital on November 1st was a notable event in the professional and social circles of Cincinnati. The hospital is small, but in point of completeness and the utilization of every advance that hospital science has made in construction and furnishing is not excelled by any. The new structure was erected by Mr. and Mrs. Alexander McDonald as a noble gift to charity. It is located on Kenyon Avenue, directly in the rear of the Laura Memorial College for Women, and may be regarded as supplemental to the old hospital. It is a four-story and basement building of brick and stone. There is an elevator that is accessible from the sidewalk, and when a patient is brought in an ambulance he can be taken to it on the cot and thence to any floor. On the first floor are the chapel, clinical, and drug-rooms. Two free wards, male and female, occupy the entire second floor, and on the third and fourth are twenty-five private rooms. On the third floor are also the operating-room and X-ray compartment, with the latest machines. A special feature of the building is its plumbing, all of which is outside of the walls. Each of the private wards has been furnished by different people. The sun-room for convalescents is on the fourth floor. The building is fire-proof throughout.

The forty-second semi-annual session of the Miami Valley Medical Society was held at Loveland on November 1st, with a full attendance. The meeting was called to order at 10 o'clock in the Presbyterian church by the President, Dr. H. A. Beeson of Leesburg. Dr. J. C. Oliver of Cincinnati read a paper on "Cerebral Compression and Concussion." The paper was full of practical points on diagnosis and treatment. Dr. E. S. Stevens of Lebanon read a paper on "Collapse and Shock from Hemorrhage," Dr. Philip Zenner, by special request, one on the "Causes of Insanity," and Dr. F. W. Langdon one on "Treatment of the Insane."

Dr. R. Morris of Goshen and Dr. Tufts of Hartwell were appointed censors for the coming year. The Committee on Malpractice Suits reported in favor of asking for legislation requiring persons bringing malpractice suits to give security for the costs. The next meeting will be held at Loveland on the second Tuesday of May, 1899.

Mr. Asa Van Wormer has given a renewed stimulus to higher education in Cincinnati by a gift of $60,000 to the Cincinnati University for the erection of a library building. The gift of a like sum by Mr. Briggs Cunningham a few weeks ago has enabled the university to add a much-needed left wing to the main building, a library alone being necessary to complete the buildings.

Dr. C. R. Holmes will remove his free clinic from his private hospital to the O. P. D. of the new Presbyterian Hospital.

The Garrison for Havana Province.—The commission appointed to locate camps for the garrison at Havana have recommended a location eight miles south of the city.

TRANSACTIONS OF FOREIGN SOCIETIES.

London.

THE STUDY OF DYSPEPSIA—PUERPERAL SEPTICEMIA TREATED BY ANTISTREPTOCOCCIC SERUM—THE ASSOCIATION BETWEEN MEDICINE AND SURGERY—MYOSITIS OSSIFICANS PROGRESSIVA—ERYTHEMA FROM AN ENEMA—SOME MOOT POINTS IN THE AFTER-TREATMENT OF CASES OF ABDOMINAL SECTION.

AT the annual meeting of the Medical Society, October 10th, ALLCHIN read a paper on the "Study of Dyspepsia." The immediate causes of indigestion may be grouped as follows: (1) Errors in quantity or character of the food. (2) Diseases of the digestive organs, either (*a*) structural, (*b*) due to impaired nervous control or (*c*) abnormal blood or lymph-supply. (3) Improper bacterial action. (4) Defective absorption. (5) Abnormal intestinal excretory processes.

One of the chief difficulties in studying the subject is the fact that many totally different conditions give rise to similar symptoms. The use of the term "functional dyspepsia" is misleading, as there is always some structural defect. The speaker then took up one type of indigestion, the so-called nervous dyspepsia. The impaired innervation may be of the mouth, stomach, intestines, or associated glands, and the disorder of the nervous control may be of central origin, such as anxiety, hysteria, etc., cerebral tumor, meningitis, etc., or it may be of reflex origin, as from the kidneys, ovaries, etc., or, third, it may be that the nerves of the alimentary canal are irritated. The term nervous dyspepsia, therefore, does not denote a group of symptoms, but indigestion of nervous origin. Hence, there are no absolutely characteristic symptoms, and even by grouping symptoms the ascertainment of the cause of any case of indigestion is extremely difficult.

MAGUIRE laid stress upon the fact that an infant first digests only albumen, as the lactose and finely divided emulsified fat of milk are readily absorbed. At about six months of age carbohydrates are digested, while the power of digesting masses of fat is not developed until much later. In indigestion the powers last acquired are the first to disappear. The ability to digest fat disappears first, then the digestion of carbohydrates is disordered, while the ability to digest proteids continues unimpaired. The rational treatment of such cases is to put the patient for a time upon an exclusively albuminous diet. After improvement becomes manifest carbohydrates may be resumed with caution, diastase being given to aid their digestion. Acids, such as lemon-juice, may be given with fat to facilitate its digestion.

At the Obstetrical Society, October 5th, WALTERS communicated a paper on a case of "Puerperal Septicemia Treated by Antistreptococcic Serum." The uterus had been curetted and swabbed with antiseptic solutions, and for five days there was only slight fever. Then acute and violent symptoms of infection set in, and in addition to local treatment 10 c.c. of antistreptococcic serum were injected. The recovery which followed was con-

sidered to be due in no small part to the injection of the serum.

ROUTH said that it is difficult to say in any given case that the recovery is due to the injections. Out of five or six cases so treated by himself one patient had recovered as a result of the serum alone. He thought it very important to ascertain exactly the nature of the infection before injecting such a powerful agent.

ROBINSON said it would be practically impossible to determine so exactly the nature of the infection. He had examined several cases with only indefinite results. Out of 7 cases which he had treated with the serum, 5 of the patients had died, the treatment apparently having had no effect; 2 of the patients recovered; in 1 of these the only effect was that the patient seemed to sleep better afterward; in the other patient, who had on the eleventh day a temperature of 104° F. and a pulse of 120 and membranous vaginitis, the injections of the serum were followed at once by a fall of temperature and the patient rapidly convalesced.

CULLINGWORTH thought that as streptococci are usually present the serum ought to be given without waiting for bacteriological investigation. The safe rule of practice is to explore the uterus digitally with the finger under an anesthetic (decomposing débris should be removed by the finger, and reliance must not be placed upon the douche), and then administer the serum without delay. Phillips had administered antistreptococcic serum in several cases, but only in one was he certain that the patient's recovery could be attributed to its use. The patient had been for many weeks suffering from acute septicemia. Curettage had failed to produce benefit. Twenty injections were given in the course of twelve weeks. The temperature, which was very high, was always lowered, the delirium ceased and the skin acted, the effect lasting several hours. In this case repeated examinations of the discharges for streptococci gave a negative result. Tate had seen several cases treated by the serum, and in some of them the results appeared to be good. In one case the first injections were followed by improvement, but afterward failed to give relief. Possibly this case was one of mixed infection.

At the first meeting of the year of the Clinical Society, the president, MR. LANGTON, spoke of the "Association between Medicine and Surgery." At the St. Bartholomew Hospital in 1662 the governors had decreed that "the apothecary do not dispense any medicines except such as be ordered by the physicians." Later a relaxation was made, and the surgeons were allowed to order mercurials and purgatives. The topics which are discussed in both surgical and medical societies at the present time show in how many points medicine and surgery overlap. As an illustration he mentioned the treatment of gastric ulcer.

HERRINGHAM narrated a case of "Myositis Ossificans Progressiva." The patient, a girl now aged eight years, was attacked by rigidity of the shoulders when only two years old. This was the result of ossifications in the pectorals and latissimus dorsi. Subsequently the neck became stiff from ossification of the sternomastoids. At five years of age swelling appeared in the back muscles which were attached to the ribs, probably of a fibrous character. At eight years of age the whole back was as rigid as a board. There were bony nodules behind the mastoids, and in the arms, fingers, and toes. There was a pencil of bone nine inches long in the right rectus abdominis. Skiagrams of the right shoulder showed that the joint was normal, the ossification being in the muscles alone. All the lesions of this disease are confined to the somatopleural layer of the mesoblast, and to the bones, periosteum, and connective tissue only. The pathology is uncertain. The trouble is congenital and not hereditary. Males suffer more often than females. There is no adequate evidence of any connection with rheumatism or rheumatoid arthritis. The view of Pincus that it is a form of new growth appears the most reasonable, and parallels may be drawn between this disease and multiple fibromata. The name is unfortunate, but may be retained until its pathology is more certain.

SPENCER regarded the disease as a congenital irregularity of ossification. In certain birds this condition occurs normally, the ossification extending into the tendons from the periosteum.

STILL read a paper on "Erythema Enematogenes (Enema Rash) in Children." This variety of rash is of considerable importance in children inasmuch as it may be easily mistaken for some of the specific fevers of childhood. The rash has a specific appearance and course as is evident from the study of the twenty-six cases which have occurred in the Great Ormond Street Hospital for children. There seems to be no reason to doubt the causal relation of the enema to the rash, as in some children the repetition of the enema repeatedly brought the rash. Their appearance is as follows: Within twelve or twenty-four hours after the administration of the enema a bright red patchy erythema comes out on the front of the knees, the backs of the elbows, the buttocks, and the face. In some cases the rash is scarlatiniform. There is rarely any constitutional disturbance and in one or two days the rash disappears. The amount of the enema or the time of its retention did not seem to have any influence in the character of the rash or the time of its appearance and disappearance. The length of time which constipation had existed did not seem to be of importance. It occurred most often after a first enema. It was more common in children over six years of age, but it had been known to occur in a child only two years old. The absence of pyrexia, of constitutional disturbances, of sore throat and coryza, and the peculiarities of the rash itself will serve to distinguish it from the rash in scarlet fever, measles, and rötheln, with which it is most likely to be confounded. In some instances the rash is followed by desquamation, which adds to the difficulty of differentiating it from scarlet fever. There is some reason to believe that the "surgical scarlet fever" which occurs after an operation is often due to the enema which has been given before the anesthetic. There are three possible explanations of the occurrence of the rash: (1) The absorption of some toxic substance from the soap of the enema; (2) the absorption of fecal toxins which were dis-

solved by the enema; (3) a reflex effect on the vasomotor centers. The author inclined to the second of these possible causes as the most likely, though further investigation is needed to settle the question satisfactorily.

At the British Gynecological Society October 13th MARTIN read a paper on "Some Moot Points in the After-treatment of Cases of Abdominal Section." Complications should be avoided by care in the preparation of the patient and in the perfect hemostasis and asepsis of the operation. Interrupted sutures of silkworm gut passed through the whole thickness of the abdominal wall are to his mind the best form of suture. Wet dressings favor suppuration and powders form crusts. The dressings should be dry and light and the patient should not be confined rigidly to her back for forty-eight hours. The sutures should be removed about the twelfth day. He drains only in septic cases or where there is much oozing. A little clean blood does no harm. He advocated iodoform gauze as a drain in preference to glass or rubber tubes. It is better to drain through the posterior fornix than through the abdominal wall. A hypodermic injection of morphin is advisable immediately after the operation, as also in cases of great prostration and restlessness. He strongly recommended the purgative treatment of peritonitis, preferably by calomel and salines, and discussed the mechanism of their beneficial action. He advised the early administration of bland fluids after the operation; it is cruel and harmful to withhold fluids for forty-eight hours. In vaginal sections he said the vagina should be packed with iodoform gauze and this should be left in until the seventh day. It is unwise to douche for at least a week after the gauze has been removed for fear of forcing the vaginal discharges into the peritoneum. Lastly an abdominal belt should be worn for at least two years after every abdominal section.

SOCIETY PROCEEDINGS.

HARVARD MEDICAL SOCIETY OF NEW YORK.

Stated Meeting, Held October 22, 1898.

THE President, DR. PALMER C. COLE, in the Chair.

The paper of the evening, entitled

OBSERVATIONS ON THE PROSTATE,

was read by DR. ROBERT H. GREENE. In 214 unselected cases of gonorrhea, taken one after the other as they came to the dispensary, Dr. Greene has carefully looked for evidence of lesions in the posterior urethra and prostate, and has made a careful examination of prostatic secretion after massaging the prostate through the rectum. Forty-five of the cases were first attacks, in 75 it was the second or some "numerically ulterior" attack. In the other cases this detail was not inquired into. In 142 cases, *i. e.*, in more than seventy per cent., careful washing out of the anterior urethra and examination of the urine passed afterward showed that the posterior urethra was involved, bladder trouble having been carefully excluded before making the test. In forty-seven per cent. of the cases there were some signs of prostatic involvement, and an enlargement of the prostate could be made out through the rectum. In 73 out of 92 cases of palpable prostatic enlargement the left lobe was most markedly involved; in 19 cases the right lobe. In the prostatic secretion secured after massage of the prostate there were found microscopically, pus-cells, lymphocytes, leucocytes, erythrocytes, epithelial cells with eccentric nuclei, mucus, and corpora amylacea. The presence of lymphocytes points to the existence in certain of the cases of interstitial change. The subject has not been studied in sufficient detail, however, to enable one to determine in what proportion of cases this occurs.

The writer's conclusion is that the Creator did not make one law for man and another for woman as regards the persistence of changes produced in the genital apparatus by the invasion of the gonococcus. In the one sex, in a large proportion of the cases, permanent changes are induced, or at least lesions which run an extremely chronic course. In the other sex, it has been the custom to think that these enduring pathological processes do not occur, but the more study is devoted to the subject the more is it becoming clear that in man, too, the lesions produced are of the most persistent and chronic character.

In the discussion which followed, DR. RAMON GUITERAS said it was a matter of great interest to him to find in how large a proportion of uncomplicated gonorrheal cases prostatic involvement occurs. He considered that the normal sizes and shapes of prostatic glands in men differ as much as their noses. He has been surprised to find in how many cases careful rectal palpation gave anomalous shapes and sizes of the prostate. He was at first inclined to attribute this to congenital anomaly, but has concluded from some recent cases that the condition is often acquired. He has had occasion to observe the course of several prostatic abscesses which were followed by atrophy of the lobe of the prostate in which the abscess had been situated. In judging of prostatic involvement in gonorrheal cases where it was not a first attack, the possibilty of these changes having been induced by the preceding urethritis or its sequelæ must be borne in mind. He had seen atrophy of prostatic tissue follow purulent processes that seemed to be localized in the epididymis or seminal vesicles.

In answer to a question from Dr. Whitman as to the most satisfactory treatment of gonorrhea at present in use, Dr. Greene said that certainly any method which assumes that the brunt of the attack in gonorrhea is borne by the anterior urethra is bound to be eminently unsatisfactory. As to the methed by irrigation in certain quarters so popular, it is sometimes effectual in stopping the discharge and in seemingly freeing it from the gonococci at an early stage, but relapes are frequent and complications not rare. In the cases in which the infection is limited to the anterior urethra, and there is a certain number of such cases, it is definitely curative. But the older methods must be employed generally until our knowledge of the pathological process in gonorrhea and its mode of spreading are better known.

With regard to a special practical feature of prostatic involvement in these cases and its persistence, Dr. Greene

related a recent experiment with two patients referred to him because they had failed to pass examinations for life insurance. They were to all appearances perfectly healthy individuals, who to their surprise had been refused policies because of some pathological condition of their urine. The insurance agent found out that a few pus-cells had been discovered by the medical examiner in their urine and he absolutely refused to pass them. As they had been applicants to different companies and had been before different medical examiners, it is evident that a good deal of care is being exercised in the examination of urinary sediments. It is not at all improbable that a number of such cases will turn up, as there are others who still have some chronic inflammatory patches in their posterior genital apparatus, the result of early indiscretions, that may occasionally give off pus-cells. Since it would seem that medical insurance examiners have now learned to recognize a pus-cell when they see it more refusals than heretofore may be looked for.

NORTHWESTERN MEDICAL AND SURGICAL SOCIETY OF NEW YORK.

Stated Meeting, Held Wednesday, October 19, 1898.

THE President, L. DUNCAN BULKLEY, M.D., in the Chair.

FIBROID TUMOR OF THE UTERUS; OVARIAN CYST.

DR. ROBERT A. MURRAY: These specimens are presented because in each case the history is unique. The fibroid was removed from a dwarf, four feet six inches high, aged thirty years. At the age of two years she began to menstruate and presented all the signs of maturity. Menstruation was normal and regular until six years ago when she began to flood. The flow was very profuse and lasted eight or ten days. She soon began to show the effect of loss of blood, became excessively nervous, and complained of pain in the abdomen. The tumor was not very large when first discovered. Operation was refused and the patient continued her work in one of the large dry-goods stores. Three years later it was found that another tumor had developed between the vagina and rectum and this caused such severe pressure symptoms that she could with difficulty attend to her duties. Still she refused operation. The flooding continued and her nervousness became intense, the latter being more marked as the menstrual period approached. During the last six months she became so weak from loss of blood that she fainted on several occasions and the condition of her nervous system was such that she had hallucinations and could not sleep without the aid of powerful hypnotics. Meanwhile large doses of ergot, hydrastis, and thyroid extract had been given without any appreciable effect upon the tumor, although the flowing was somewhat controlled by the fluid extract of hydrastis. Electricity, one pole on the abdomen and the other in the vagina, was also employed, with negative results. When the patient finally consented to let me operate I found this large tumor firmly adherent to the left side, and it was removed with great difficulty. Owing to its peculiar position and because of the fact that the pelvis was very much contracted, it was almost impossible to get at the arteries in order to tie them off, but I finally succeeded in doing this from below. Chromicised catgut was used for all ligatures. The abdomen was flushed out with hot saline solution and a quantity of the latter was also injected into the rectum. The abdomen was then closed in three layers, the peritoneum with fine chromicised catgut, the fascia with a running suture of catgut, and the fatty tissue and skin with silkworm-gut sutures. A dressing of sterile gauze was applied. No antiseptics were used during the operation. The wound in the vaginal vault was left open. The patient made a good recovery.

The second specimen is a very large cyst of the right ovary which I removed from a poor scrub-woman who found it very difficult to get employment on account of the large size of her abdomen. She was thirty-nine years of age, the mother of two children, and had ceased to menstruate four years previously. The cyst had rapidly increased in size during the past year. Upon opening the abdomen I found that the cyst was adherent to the under surface of the liver. After eight and a half quarts of chocolate-colored, ill-smelling fluid was evacuated the cyst was freed from its attachment to the liver and intestines and removed. The pedicle consisted of the ovarian ligament, all that remained of the Fallopian tube, and a portion of the broad ligament. The woman, who was extremely emaciated, made an uninterrupted recovery. The sutures were removed on the eighth day and the patient left the hospital at the end of the second week.

In connection with this last case I would like to mention a third in which there is some question as to the exact diagnosis. The patient is a woman, thirty-five years of age, married three years but never pregnant. She menstruated last on September 2d. Just at the time when the October period was expected she got caught in a shower and became thoroughly soaked. This was followed by all the signs of approaching menstruation but the flow did not appear. The patient considered herself pregnant. Upon examination a tumor was found in the pelvis which extends up to the umbilicus and down on the right to the spine of the ilium where it is firmly fixed. The mass also extends to the left side, although not so low down as on the right side. It is solid and absolutely immovable. The ovaries and tubes can not be felt. The cervix is large. There are no signs of pregnancy. The woman complains of but two symptoms, *viz*,, suppression of the menses and difficult defecation. The latter is probably due to pressure of the tumor on the rectum. The patient tells me that she had an attack of peritonitis at the age of seventeen. The family history is bad, her mother and sister having died of cancer of the uterus. The history of the case does not point to fibroid tumor.

DISCUSSION.

DR. J. RIDDLE GOFFE: The speaker should be congratulated upon the success in spite of the many difficulties attending the removal of the fibroid in the first case. The kind of ligature material to be used in these opera-

tions is an interesting point. I am very glad to hear that Dr. Murray is using catgut. I have been using it myself for some years—not chromicised but ordinary catgut, as put up in alcohol by Van Horn & Co.—for all work in the pelvis and also in removal of the uterus per vaginam. The advantage of catgut is that it is absorbed without occasioning any irritation, does not become encysted as silk does, nor burrow around and make a fistula.

The question of the best method of sewing up the abdominal wound is also interesting. For the last few years I have been using through-and-through silver wire sutures, as practised by Marion Sims years ago at the Woman's Hospital, and I find that I get better results and fewer herniæ than when I used to close the abdominal wound in layers. Moreover it is more quickly done.

ASCENDING OPTIC NEURITIS OF PROBABLE SYPHILITIC ORIGIN.

DR. ROBERT H. GREENE: At the May meeting of this society I narrated the history of a case of optic atrophy which had been seen by a number of prominent ophthalmologists, all of whom gave an unfavorable prognosis. In order to encourage the man, who was in a desperate frame of mind on account of his increasing blindness, rather than because I expected any good results, I took him to a friend of mine to have galvanism applied. This has been done by means of one electrode placed on the occiput and the other on the eyes, at daily sittings, and the man's vision is apparently improving, I suppose as a result of stimulation. Of course, if the neuron—the terminal nerve-cell—is dead, nothing can be done to restore sight. I would like to know if any members of the society have had any experience of this kind.

FRACTURE OF THE NECK OF THE FEMUR IN YOUNG SUBJECTS AS A RESULT OF SLIGHT VIOLENCE.

DR. H. LING TAYLOR: At the meeting of the Orthopedic Section of the Academy this week I expect to show two cases of fracture of the neck of the femur in young subjects as a result of a slight fall. We are told in the books that this is apt to occur in elderly people but is rare in young persons except as a result of great violence. Dr. Royal Whitman has collected a number of cases occurring in children. My patients are boys, sixteen and eighteen years of age respectively, and in one case the injury was sustained by falling to the ground while crossing the street, in the other while walking on a piazza.

DR. FRANK GRAUER then read the paper of the evening, entitled

CIRRHOSIS OF THE LIVER, WITH SPECIAL REFERENCE TO ITS ETIOLOGY AND TREATMENT.

The disease was described as a condition in which the liver has become the seat of fibrous changes resembling cicatricial tissue. The term cirrhosis was first employed by Laennec because of the yellow color of the organ but is now used to describe disease of other organs in which there is this overgrowth of fibrous tissue. In cirrhosis of the liver the fibrous tissue is distributed throughout the organ in various ways. In the multilocular or most common variety, it forms a coarse network which involves the whole organ, each mesh enclosing a number of the hepatic lobules. In a second variety individual cells are surrounded by a finer network of fibrous tissue; in a third variety the lobules themselves are penetrated by the new tissue, and in still another dense bands of cicatricial tissue traverse the whole or greater part of the liver dividing it into irregular masses and causing by their contraction a deformity of the organ resembling that seen in so-called gummatous or syphilitic cirrhosis. Clinically the disease is divided into two well-marked types, the *atrophic* and *hypertrophic*. In the former variety the liver is small, weighing in some instances only a pound or a pound and a half. It is usually not adherent. It is tough, irregular in contour, and its surface covered with hobnail projections of variable size around which the capsule appears thickened. On section the organ is generally yellowish-red or jaundiced but at times has a sage-green tinge, and is permeated by a network of cicatricial tissue around islands of liver substance. The large branches of the portal vein are wide but their capillaries are compressed to such a degree that they obstruct the flow of blood in the portal vein.

The hypertrophic variety of the disease is much less common than the atrophic and presents many points of marked contrast. The liver increases in size, weighing from five to seven pounds and at times as much as ten. Its surface is smooth and shows no contraction. On section the organ is yellow or orange-green and its substance smooth or finely granular. It is tough in consistence but not so much so as in the first variety.

The most common cause of cirrhosis of the liver is excessive use of alcohol, compared to which all other causes are insignificant. Of all the organs of the body the liver is the one most affected by alcohol. The next most common cause of the disease is syphilis, either hereditary or acquired. In the former case there is a general fibroid condition of the liver; in the latter a localized fibroid change or scarring of the organ. Malaria has also been given as a cause of cirrhosis of the liver, and in a certain province in Italy it is said to bear a more important etiological relation to the disease than alcohol. The author cited a case of a young woman who developed cirrhosis of the liver after having suffered from malaria for about a year. She was tapped four times to relieve the ascites and died eight months after the onset of the disease. Autopsy showed a large cirrhotic liver and a large spleen, both of which showed the malarial pigment. The gouty diathesis and predisposition to cirrhosis in general are also etiological factors. Tuberculosis is a cause of atrophic cirrhosis. Infectious diseases, such as scarlet fever and even typhoid, play a part in the causation of cirrhosis, and recent work appears to be leading to the conclusion that the disease is brought about by a condition of toxemia.

In regard to treatment, alcohol must be strictly prohibited in all cases of cirrhosis of the liver, whatever the cause. Highly seasoned food, spices, and coffee should also be forbidden. Milk should form the main article of diet at the commencement of the disease. White meat

in small quantity may be allowed later, also vegetables and fruits which contain little starch. If there is any reason to suspect syphilis as an etiological factor, iodid of potassium and mercury should be given. Acids, bitter tonics, and mild preparations of iron may be given to relieve the gastro-intestinal symptoms. Medicine rarely has a permanent effect upon the ascites. In some instances the administration of diuretics is followed by a perceptible diminution of the ascites, and hydragogue cathartics decidedly lessen it. Tapping should be performed early.

DISCUSSION.

DR. R. H. GREENE: The ground has been most thoroughly covered by the paper. One indirect cause of cirrhosis of the liver has not been mentioned, however, namely, heredity. We all know that persons whose ancestors have died of cirrhosis of the liver or kidneys are liable to develop the disease. Such individuals are not considered good risks by the life-insurance companies.

In regard to treatment I believe that in future it will be found that electricity can be used with benefit in cirrhotic conditions of the various organs of the body.

DR. R. A. MURRAY: My experience teaches me that cirrhosis of the liver is generally accompanied by a similar condition of the kidney. I have seen a number of such cases. In acute cirrhosis with ascites I have known markedly good results to follow a single tapping. Two such cases were in Bellevue when I was there, years ago, and both patients are still alive. One of the patients was a saloonkeeper, a whisky-drinker, who was intoxicated when admitted. The other was a stone-mason who had been in the habit of drinking large quantities of beer. Ascites was extensive in each case, and both patients recovered after being tapped once.

I have removed enormous quantities of fluid by tapping these patients, and in one case I tapped nine times during a period of four years. After each tapping the swelling of the abdomen and limbs subsided and the patient was able to return to her business as a teacher of dancing. At her death autopsy showed not only cirrhosis of the liver but a cancerous nodule which pressed upon a vein. It is surprising how long some of these patients live. I have in mind a case in which thirty years ago a professional friend of mine made a diagnosis of cirrhosis of the liver and said that the patient could not live six months. The man had a gouty diathesis but he never developed ascites, and he lived thirty-five years after having been refused by every life-insurance company in the city. In another case the patient was told he could not live more than a few months. This was thirteen years ago. He was a drinking man and at once stopped drinking and has been comparatively well ever since.

DR. S. H. DESSAU: The remarks of the last speaker remind me of a very interesting case I saw in consultation some years ago. The patient, a woman, had a great deal of ascites and had been under the care of several different physicians, and had at one time been in the Rotunda Hospital in Dublin where she was operated upon under the mistaken diagnosis of ovarian dropsy. The interesting feature of the case is that the ascites finally disappeared entirely without treatment, although at the time of her death she showed all the symptoms of cirrhosis.

The author has spoken of phosphorus as a cause of cirrhosis of the liver in children. I have seen several cases of cirrhosis in rickety children who had never been given phosphorus, and I think we may well believe that the rachitis was the cause of the cirrhosis. In one of these the liver decreased markedly in size under the administration of cod-liver oil with hypophosphites. Another cause of ascites in children has not been mentioned by the author, although during the past four years it has been referred to by the French writers, *viz.*, a cardiac lesion at the mitral orifice.

DR. ROBERT MILBANK: I have taken a few notes from my case-book about a case of acute yellow atrophy of the liver in which the symptoms were very similar to those caused by cirrhosis of the liver, and in which a diagnosis of the latter disease had been made by an experienced physician. The following is the history: F. L., aged twenty-two years, mother of two children, came under observation October 10th. She had been fairly well until the beginning of the illness, four weeks previously, which began with nausea, vomiting, headache, and an increasing yellowness of the skin. The vomiting was persistent and occurred at short intervals. She had been in the habit of drinking a good deal of beer, especially at night. When seen by me she had had occasional rigors at irregular intervals, followed by fever and sweating. During the last four days she had complained of a sharp pain in the right side, radiating from the lower border of the ribs toward the right nipple. The vomiting increased and became dark in color. Nutritive enemata and quinin by rectum were given. The patient became stupid and drowsy and later slightly delirious. Death occurred five days after my first visit and was preceded by slight convulsions and coma. Autopsy six and a half hours after death: Lungs slightly congested and edematous; surface of the heart showed areas of congestion; liver weighed two pounds and two drams, and had a yellow, granular appearance, showing considerable contraction on the surface; on section it presented a yellow and red granular appearance; hepatic vessels and ducts were all pervious. Spleen looked very large, but weighed only seven and one-half ounces. Right ovary contained an apoplectic clot. Urinary bladder was full, and examination of the urine showed epithelial casts, leucine, and tyrosin.

DR. H. L. TAYLOR: I was glad to hear the author speak of the effect upon the liver of chronic indigestion. There can be no doubt I think that the toxic products which are the result of chronic indigestion are the cause of many diseases.

DR. WILLIAM STEVENS: It is a mistake to think that patients suffering from cirrhosis must necessarily be hard drinkers. Some years ago I treated a clergyman who was a strict prohibitionist, and in another case the patient drank nothing stronger than unfermented grape-juice.

DR. J. H. FRUITNIGHT: I am of the opinion that

cirrhosis is due to some toxic element, either chemical or microbic. Autopsies made last spring during an epidemic of measles showed the liver to be affected in nearly all cases. I have seen a number of cases of cirrhosis in children due to heredity. As regards the absolute cure of the disease, I doubt if this be possible, although a relatively good state of health may be regained. One should be circumspect in regard to tapping. I once drew off fluid from the abdomen of a patient suffering from an enfeebled condition of the heart. Although I was careful not to remove all the fluid, the patient three hours after the tapping suddenly went into syncope and died.

DR. ROBERT NEWMAN: In regard to the use of electricity in cirrhosis of the liver, I know of instances in which the faradic current has been employed. It seems to me that static electricity would give good results by stimulating the liver and bring it to a normal state.

DR. GRAUER, in closing: In regard to the statement made by one of the speakers as to the connection between cirrhosis of the liver and kidney, the scope of my paper does not include the complications of the disease. It is, of course, well known that those who die of cirrhosis of the liver usually have cirrhosis of the kidney, and from the same cause, *i. e.*, alcoholism.

A complete cure of the disease is not possible, for when fibrous tissue has once formed it cannot be got rid of. What we hope and expect to do by means of treatment is to get rid of the ascites and establish a collateral circulation, such as is described by Osler in his "Practice of Medicine," and in this way prolong the life of the patient for years.

REVIEWS.

A MANUAL OF MODERN SURGERY, GENERAL AND OPERATIVE. Edited by JOHN CHALMERS DA COSTA, M.D., Clinical professor of Surgery, Jefferson Medical College, Philadelphia; Surgeon to the Philadelphia Hospital, etc. Philadelphia: W. B. Saunders, 1898.

THIS excellent abridged volume on surgery appears in its second edition after an interval of four years. In the first edition the author gave the student the benefit of his extensive reading and experience as shown by the liberal quotation of authorities; in its present form, most of the accepted innovations of the past four years have been incorporated, with literary references in each instance. Such methods are commendable for they not only fit the student for subsequent reading, but they tend to preserve the traditions of surgery.

Every chapter has been benefited in this revision. The chapter on bone disease might, however, have been made more lucid for the student by considering any process in the bone as an osteomyelitis, or periostitis (acute, chronic, traumatic, and infectious), with caries, necrosis, sclerosis, plastic formations, and bone-abscess as sequels; these latter would then not be mistaken for diseases *per se*, but would be recognized as the results which they actually are.

The most noteworthy additions are on the surgery of the gastro-intestinal tract. The revised chapter on gunshot wounds harmonizes well with the experiences of surgeons during our recent hostilities. The last few pages are devoted to X-ray work.

THE METHODIST EPISCOPAL HOSPITAL REPORTS. Vol I. 1887–1897. Edited by LEWIS S. PILCHER, M.D., and GLENTWORTH R. BUTLER, M.D. Published by the Hospital, 1898.

THIS report of the young Brooklyn hospital is altogether admirable. It is a historical, surgical, and medical *résumé* of its first ten years of work. The professional part of the work is divided into three parts, the surgical, the medical, and the pediatric. They show that histories are well kept and accurate records established. Dr. Fowler's "Clinical Studies in Appendicitis," Dr. Pilcher's "Clinical Studies of the Surgical Diseases of the Female Generative Organs," Dr. Webster's "The Anesthetizations," and the article on "Surgical Operating-room Arrangements and Methods" (Dr. Pilcher) are instructive and interesting. Dr. Matheson has studied the typhoid cases, Dr. Shaw the cases of disease of the lungs, bronchi, and pleura, Dr. Belcher the cases of aneurism, and Dr. De Forest the cases of pregnancy. Dr. Bogart contributes a study on empyema in children. The 563 pages of the book convey an excellent notion of the hospital's systematic, scientific work. The report is a model of what that of the smaller hospitals should be.

ATLAS AND EPITOME OF OPERATIVE SURGERY. Edited by DR. OTTO ZUCKERKANDL, Privat-docent in the University of Vienna. Translation edited by J. CHALMERS DA COSTA, M.D., Clinical Professor of Surgery in Jefferson Medical College, Philadelphia; Surgeon to the Philadelphia Hospital, etc. Philadelphia: W. B. Saunders, 1898.

THE subject of operative surgery lends itself preeminently to illustration, and in this hand-atlas is represented by twenty-four excellent colored plates and 217 wood-cuts reproduced from photographs. In the text many more operations are considered than are illustrated, which is quite inconsistent with the purpose of an atlas. Surprising is the omission of a number of illustrations of operations on the gastro-intestinal tract, for external urethrotomy, for empyema, for hydrocele, and for operations on the rectum and uterus.

By frequent annotations the translator has brought the work up to date and rendered it more acceptable to the American student. There is nothing distinctively meritorious in this work to attract attention save the distinguished names of the editors.

OUTLINES OF PRACTICAL SURGERY. Edited by WALTER G. SPENCER, M.B., M.S., F.R.C.S., Surgeon to Westminster Hospital. London: Baillière, Tindall, & Cox, 1898.

THIS work is the analogue of our compends, yet the current style of the descriptions makes it more readable than the usual compend with its cut-and-dried queries and answers. It can not be judged by the same standards as

larger text-books on surgery, but it certainly merits the attention of the busy student for the very terse but practical hints in the treatment of surgical affections.

The subject of etiology suffers much because of the step-motherly consideration that bacteriology and pathology receive. Diagrammatic illustrations are used throughout, some of which are very unintelligible; as, for instance, that illustrating Maunsell's operation for intestinal anastomosis. The author assumes a most alarming attitude toward cocain, even gainsaying its anesthetic properties when injected subcutaneously. As an epitome of surgery this text-book might be of service to the student preparing for examinations.

PRACTICAL DIAGNOSIS. The Use of Symptoms in the Diagnosis of Disease. By HOBART AMORY HARE, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Third edition, enlarged and revised. Philadelphia and New York: Lea Brothers & Co., 1898.

THIS is a companion volume to the author's "Practical Therapeutics" and is arranged upon similarly ingenious lines. The popularity of the book is evident from the fact that it has reached a third edition in three years. The author has improved the present opportunity to bring the work up to the latest scientific discoveries in the art of making diagnoses. The revision is, perhaps, most marked and noticeable in the chapters dealing with the blood and the diseases of the nervous system.

After a lengthy introduction, the author divides his work into two parts: "The Manifestation of Disease in Organs" and "The Manifestation of Disease by Symptoms," the two parts being corollaries of each other, rendering reference and cross-reference easy, and forming a tolerably complete text-book of diagnostic medicine. The grouping of symptoms and assigning them to the various diseases in which they may appear is particularly well done and must prove exceedingly useful to the puzzled practitioner.

Extended review of this work is scarcely called for. The reviewer can but express his gratification that the book has been so carefully revised and can but reiterate that its unique character and thorough usefulness are certain to maintain its popularity. The handsome illustrations and copious index add to the literary excellence of the book.

ACCIDENT AND INJURY; Their Relations to Diseases of the Nervous System. By PEARCE BAILEY, A.M., M.D. New York: D. Appleton & Co., 1898.

THE author has evidently devoted much industry and labor in getting from numerous sources the material which he so ably presents in this book. The work fairly represents the present position of neurological science in reference to a class of diseases specifically due to traumatism. Dr. Bailey frankly states that we are as yet ignorant of the nature of the traumatic neuroses but still much has been elicited in reference to their causes and symptoms. It is the purpose of this book chiefly to offer the latter in such a way as to further their recognition as distinct clinical entities and to render their diagnosis a little more easy.

The book begins with a consideration of injuries to the nervous system of organic character, as well as the effects of such injuries. Part II. deals with the functional effects of injury and the nervous disorders which frequently follow railway and allied accidents, the so-called "traumatic neuroses." An entire division of the work is given to malingering.

Much may be said in praise of this book, its composition and style deserving special comment in this regard. It is comprehensive and shows the labor of a student.

THERAPEUTIC HINTS.

For Gastralgia.—

℞	Morphinæ hydrochlorat. . .		gr. iii
	Cocain. hydrochlorat. . .		gr. v—viii
	Tinct. belladonnæ. . .		ʒ i—ii
	Aq. amygdalæ amaræ .	q.s.ad.	℥ i.

M. Sig. Ten to fifteen drops every hour.

For Vesicular Eczema of Scrotum.—According to WITTZACK it is not advisable to use a powder, since when mixed with the secretion from the affected surface it cakes and falls off. The application of compresses wet with an astringent solution is recommended, as for instance:

℞	Aluminii acetat. . . .	ʒ v
	Liq. plumbi subacetat. . .	ʒ ss—ʒ iiss
	Aquæ	℥ iii.

M. Sig. External use.

If the epithelium is gone it is best to employ a mixture of 1 to 2 parts of white precipitate ointment with Lassar paste. It will often be found helpful to cauterize by means of a solution (10 to 50 per cent.) of caustic potash applied on a cotton tampon; the caustic is then washed off and the part covered by Lassar paste. Or nitrate of silver (a 10- or 20-per-cent. solution) may be chosen.

For Pleurisy with Effusion.—For reasons not yet understood much benefit is derived in this affection, when of tubercular origin, from treatment by mercury added to or alternating with creosote. This is said to be true also of tuberculosis of the lungs, glands, and skin. Occasionally, gastric pain or slight diarrhea is produced, but is easily cured by suspension of treatment for a few days:

℞	Hydrargyri chloridi corrosivi Sodii chloridi Ext. opii	}	aa gr. xv
	Fresh bread crumbs . .		gr. lxxv
	Gluten		gr. xl
	Glycerini		*m.* xxx—xlviii.

M. Ft. pil. No. C. Sig. One to three pills daily during a meal.—*Robin.*

For Flatulence in Children.—

℞	Sodii sulphocarb. . . .		gr. iv—viii
	Syr. aurantii		*m.* xl
	Aq. menthæ pip. .	q.s.ad.	℥ i.

M. Sig. One teaspoonful three times a day for two days.—*Freyberger.*

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXXIII. NEW YORK, SATURDAY, NOVEMBER 19, 1898. NO. 21.

ORIGINAL ARTICLES.

THE TREATMENT OF PNEUMONIA IN CHILDREN IN HOSPITAL AND GENERAL PRACTICE.

DISCUSSION HELD IN THE SECTION ON PEDIATRICS OF THE NEW YORK ACADEMY OF MEDICINE NOVEMBER 10, 1898.

THE MANAGEMENT OF THE FEVER OF PNEUMONIA.

BY HENRY DWIGHT CHAPIN, M.D.,
OF NEW YORK.

IN the discussion of the management of the fever of pneumonia no distinction will be made between the catarrhal and croupous forms of the disease.

It has seemed to the writer that undue prominence is often given to this symptom and energetic measures sometimes needlessly taken to combat it. Of course, high temperature in connection with inflammatory action in the lungs is naturally to be expected. It is quite possible that a certain grade of fever may have a beneficial action when it accompanies the reaction of the tissues to infective and inflammatory irritation. It is also a clinical fact that children, as a rule, stand high temperature well. When this is the case it is folly to upset the stomach by drugs or weaken the heart by antipyretics in combatting a temperature that is not doing any great harm. In such a case the treatment may do more damage than the symptom against which it is directed. As the inflammation of the lungs subsides, the fever will subside, and in many cases the careful treatment of the disease by well-known methods will, at the same time, constitute the best management of the fever. There are times, however, when a single symptom will reach preponderating importance and call for special treatment. This may be the case with the fever of pneumonia. Children vary much in the way they are affected by fever. Some bear very high temperatures without evidence of much disturbance. In others hyperpyrexia will have a disastrous effect upon the brain and nervous system, upon heart and lungs, and upon the digestive organs. Here interference is promptly called for and the indication for treatment is not so much the exact degree of temperature as the disturbance which is being caused by the fever. In one case a temperature of 102° to 103° F., may call for special treatment; in another there may be good toleration up to the point of 104° or even 105° F. A glance at such disturbances may aid in indicating the call for treatment. High temperature may result in extreme cerebral irritation, producing great restlessness, insomnia, and convulsions. In other cases, especially infants, there may be stupor, and even coma. The heart sometimes becomes weak as well as rapid in action. When the temperature is very high, accompanying this condition we have a marked increase in the rapidity of respiration. This may be of serious import in pneumonia where the respiratory action is more or less embarrassed. For example, a rise of two degrees, from 103° to 105° F., may quicken the respirations from 40 up to 50, 60, or more per minute. This adds to the exhaustion and increases the spread of the congestion and inflammation. The heart also experiences more difficulty in sending the blood through the engorged lungs. Digestion and assimilation always suffer more or less in fever. In some cases this disturbance may be so serious as to impair the chances of recovery.

While a high temperature may not be the exclusive cause of the conditions just enumerated, as various degrees of toxemia and nephritis may co-exist, it has been shown by experience that control of hyperpyrexia gives a certain measure of relief. It must be remembered that the temperature of pneumonia in children is rarely continuously high, there being frequent remissions in the average normal course of the disease. In croupous pneumonia the indications for interference in hyperpyrexia are not so important as in bronchopneumonia, as the former disease runs a short course and tends to recovery in children, even with severe nervous symptoms and very high fever.

In our management of hyperpyrexia, the first point is to avoid any measures that will secondarily have a bad effect, and thus hinder future chances of recovery. All depressing remedies come under this head: as, for example, most of the coal-tar derivatives. The only exception I make to this rule is the occasional administration of small doses of phenacetin in sthenic cases where there is pain and nervous restlessness. Cardiac stimulants, such as caffein or camphor, are always added. Where very high temperature keeps recurring, however, this remedy

is not to be continued. Antipyrin, and especially acetanilid, should not be given under any circumstances. It is sometimes a great temptation to give these preparations as they are easily taken and usually have a prompt if only temporary effect. The application of water is on the whole the safest and most satisfactory method of controlling dangerous hyperpyrexia. Much may be accomplished by a thorough application of cold to the head. This not only reduces the temperature but relieves to a certain extent its deleterious effect upon the brain and nervous system. In order to be effectual the cold to the head must be thoroughly and continuously applied. The ordinary method of applying cool cloths is not sufficient. Finely cracked ice placed in bladders, from which the surplus air is expelled, may be molded around the head, especially at the vertex and occiput. I have found ice-poultices, made by mixing finely cracked ice with flaxseed meal in oiled silk, placed around and on top of the head, to be most valuable. By this means a steady application of cold can be conveniently applied. If this is not accomplished, the next resource is the application of compresses directly to the chest. The child is stripped, wrapped in a blanket, and placed upon a table. A stimulant is given and the feet are placed in contact with hot bottles. A compress sufficiently large to surround the chest is plunged into water at a temperature of from 70° to 95° F., and applied to the chest. This is changed every ten or fifteen minutes until the desired result is obtained. In order to disturb the child as little as possible, the nurse is directed to apply the compress from the front, tucking in the ends until they meet in the back, in this way avoiding much movement or inconvenience to the child. The exact temperature of the water in a given case must be determined by the condition of the child, and the temperature to be combatted. A needless amount of cold is often employed. If the temperature is 105° F., the water may be 95° F., or even warmer at the start. A frequent application of the compresses will often produce results at this comparatively high temperature. If the compresses are allowed to remain unchanged, they become warm and the effect is lost.

If the temperature does not yield, the temperature of the water can be lowered until it reaches 70° F., 60° F., or even lower. It requires some careful watching to determine exactly how low the temperature of the water may be kept. The addition of about one-fourth part of alcohol sometimes increases the value of these compresses. This was well exemplified in a case recently under my care. An infant fifteen months of age with an extensive bronchopneumonia had a temperature ranging from 104° to 105° F. As the symptoms were somewhat urgent, the infant twitching as in beginning convulsions, a compress at 60° F. was applied about the chest. The child became slightly cyanotic under the compress, without much reduction of temperature. They were then removed and stimulants given. The following day compresses at 70° F., with the addition of one-fourth part alcohol, were applied, and the child reacted well to this treatment; the temperature soon dropped to 102° F. *So long as the feet and hands are kept warm* the cool compresses may be applied, but chilliness of these parts is a contraindication to cold. When the temperature is reduced to 102° or 103° F., the compresses should not be renewed, but are kept in position in case the temperature ascends again to an unsafe degree. In the meantime they act in the same way as a cotton-batting jacket. I have sometimes kept a child in this position for several days, applying cold when indicated by a hyperpyrexia which tends to recur. This clinical fact is probably explained by a mixed infection and not the pneumococcus alone being responsible for the disease. Wide variations in the temperature point to the former condition.

The deepened respirations ensuing upon the application of the compresses have a favorable effect upon the pneumonic circulation. As a rule, children do not object to the compress when applied in the manner here suggested, the principal point being to avoid too great a degree of cold and to apply the compress with as little disturbance as possible to the child, keeping the extremities warm.

Although I have occasionally employed the tub I rarely use this method now in combatting hyperpyrexia. The fright of the child and the exhaustion which accompanies the tubbing contraindicate its use. I believe that all the good effects which may be obtained by the use of the tub may be had by a proper use of cool compresses. In case of cyanotic children, with prostration and hyperpyrexia, I have employed the warm bath (100° F.) with friction of the surface with good results.

THE TREATMENT OF PNEUMONIA IN VERY YOUNG CHILDREN.

BY L. EMMETT HOLT, M.D.,
OF NEW YORK.

IN considering the treatment of a disease like pneumonia it should be borne in mind at the very outset that most of the cases of primary pneumonia seen in fairly vigorous children more than two years old recover. If of the lobar type they are usually single-lobed and uncomplicated, often severely ill but terminating usually by crisis. If they are cases

of bronchopneumonia they do not usually lead to diffuse areas of consolidation, although in most instances both lungs are affected.

The cases just described form fully two-thirds of those seen in private practice, although they make up a much smaller proportion of those seen in hospitals. The great majority of these patients recover and recover promptly with hygienic treatment only. Very active treatment is unnecessary. In a great proportion of them stimulants are not required and, with the exception of an occasional dose of medicine for some special symptom, they get well without drugs. Cases like these prove nothing for any plan of treatment. It is in the hospital surroundings in delicate children, and particularly in those under two years old, that the crucial test of any plan of treatment for pneumonia in early life is found. Dropping, therefore, for the present, from consideration the milder group of cases, let us consider only those of the serious type among the class of children mentioned.

There are three ways in which pneumonia in young children may kill, or rather, three types of the disease which may be fatal: (1) From exhaustion; (2) from complications; (3) from acute toxemia. Judging from my own hospital service I should say that the relative frequency of these causes of death is about sixty per cent. from the first, twenty-five per cent. from the second, and fifteen per cent. from the third.

In the first class, in which death occurs from exhaustion, it is not generally because the attack is an especially severe one, but because of the diminished resistance of the patient in consequence of its age, and often of its previously debilitated condition. Such a child, one year old let us suppose, has pneumonia. What can we do for him? At the outset we must recognize the fact that there are many things which may be of value when given to older children and to adults which are not admissible in the case of these little patients. As we cannot do all that we would we must content ourselves with doing as well as possible the things which are of greatest importance. We have as yet no specific remedy for pneumonia, no pneumococcus antitoxin; we can do nothing directly to neutralize the poison of this organism or prevent its development. Both these ends are best accomplished by increasing the resistance of the tissues of the patient, in other words, by treating the child rather than the disease. It should be our purpose, therefore, so to care for the child as shall best enable it to resist the advances of the disease. The most important things to be considered are: (1) an abundance of fresh air; (2) intelligent nursing; (3) careful feeding.

An adequate supply of fresh air is always essential to good nutrition and is absolutely indispensable when the lungs are the seat of the disease. Under no circumstances should less than 1000 cubic feet be allowed to each hospital patient, and, more than this, when possible, will improve the results. Rooms kept close and suffocating at a temperature of 75° F. and upward, on account of the fear of draughts, so often encountered in private practice, are to be reckoned among the most depressing agencies to a child with pneumonia that can be imagined. In the Babies' Hospital where several patients are together we endeavor to have them taken from the ward two or three times a day to another room where a complete change of air can be secured and to allow thorough airing and ventilation of the ward they have vacated, the temperature of both wards being kept at about 70° F.

No less important than this is the constant, unremitting, intelligent care which is included under the term of good nursing; not to worry the child and wear it out by doing too much, quieting its nervous system by frequently changing its position in its crib and changing from the crib to the nurse's lap or shoulder, and ministering to its physical comfort in the thousand and one little ways which an experienced infant's nurse knows how to do. One nurse will quite wear a child out with the fretting and crying and continued resistance which her attentions excite. Another will quiet and soothe it and accomplish everything which is necessary with half the struggle, and often with none at all. The effect of these things upon the welfare of the patient is something which is hard to overestimate.

The third essential is careful feeding, observing closely the particular child under treatment, lest we upset completely the digestion already enfeebled by the acute disease. Plenty of water is always important and is best given by combining it with the food, which is thus made more dilute than in health, together with the use of predigested milk and beef preparations, or other foods which are easier assimilated and tax digestion as little as possible. Few things cause a child to lose ground so rapidly as an attack of acute indigestion, usually the result of overfeeding, and when the stomach has once failed it usually happens that all is lost.

In the cases we are now considering death rarely occurs before the end of the first week and more often not until the third or fourth week, the usual local condition being a gradual extension of the inflammatory process until there are quite extensive areas of consolidation in both lungs and a progressive exhaustion of the child. Very often these attacks are not severe at the outset.

In addition to these general means, which must in

all cases be attended to, some special symptoms may require treatment. The cough in our experience has been better controlled by the inhalations of the vapor of such substances as creosote, eucalyptol, and pine-needle oil under a tent than by the administration of drugs by the mouth. Some stimulation is required in nearly all cases, at least after the first few days, and sometimes wine, sometimes brandy or whisky is better borne. Both should be very freely diluted and rarely pushed beyond 1 ounce of whisky or 3 or 4 ounces of light wine in twenty-four hours. Often we have found it better to give the food during the day and stimulants chiefly at night. The temperature is rarely high enough in these cases to require anything more than sponging or an ice-cap to the head. Moderate counter-irritation, especially early in the disease, is usually maintained by the use of a mustard paste every three to six hours, left on from five to six minutes; and an oil-silk jacket is worn throughout the attack. By such means as this, rather than poulticing the chest, and the internal administration of expectorants, antipyrectics, and large amounts of alcoholic and other stimulants, such cases of pneumonia are, in our experience, best managed, whether they occur in hospital or private practice. The rule should be followed of not giving the child a single dose of medicine unless absolutely demanded.

According to our division the second group of cases are those with complications. These are generally the result of the infection of other organs by the pneumococcus, the order of frequency with which they occur being plastic or purulent pleurisy, pericarditis, meningitis, and peritonitis. These are sometimes seen early and sometimes late. For such cases no special treatment is required beyond that for any other severe case. Except pleurisy, these complications, I believe, are invariably fatal in infancy and even pleurisy is very serious. Beyond the local treatment for empyema complicated cases are managed like other serious cases of pneumonia.

In the third group we have placed cases characterized often from the outset by an intense toxemia, the prominent constitutional symptoms being hyperpyrexia, profound prostration, and cerebral symptoms, the local condition being, first, one of intense congestion and edema, and later widespread disease involving usually more than one lobe or both lungs. Exceptionally, however, severe toxic symptoms occur with a local disease of only moderate extent. In this type of pneumonia death may result in the first twenty-four hours, the patient being overwhelmed by the violence of the onset of the disease. It nearly always proves fatal, if at all, before the end of the first week.

The treatment of these cases must have regard both to the constitutional and to the local conditions. Cardiac and respiratory stimulants are often necessary within twelve hours of the onset and invariably before the end of the second day. Those stimulants on which we most rely, placed in the order of their value according to our judgment are: (1) Strychnin, (2) nitroglycerin, (3) oxygen, (4) alcohol, (5) caffein. They may often be given hypodermically with advantage. Of strychnin we rarely for a child of one year give more than $\frac{1}{200}$ of a grain every three hours, except for a very short time and it must sometimes be omitted altogether when there is great restlessness and cerebral excitement. Nitroglycerin we find especially useful in the early stage of the disease with a pale face, feeble pulse, and cool extremities and signs in the chest of an intense pulmonary engorgement. Here, by its effect in dilating the peripheral vessels, it may, in conjunction with hot mustard baths, accomplish more than everything else in getting the blood out of the lungs. For a short time $\frac{1}{400}$ of a grain may be given every hour, and after two or three doses continued at four- or five-hour intervals. Alcohol, though very useful, is, I think, very apt to be pushed too far and it is distinctly inferior to some of the drugs mentioned. It is seldom necessary, except for a few hours at a time, to give more than 20 drops of brandy hourly or an ounce in a day. Oxygen is of the greatest value, but unfortunately its expense makes its routine use almost impossible in hospital practice. Caffein in $\frac{1}{10}$-grain doses will sometimes act better than strychnin, particularly in dull, drowsy patients, so poisoned by the disease that the administration of food and stimulants becomes extremely difficult. The question of feeding in this form of pneumonia is much less important than in those previously referred to. On account of the difficulty of administration and the feeble digestion we find it advantageous in many cases to employ forced feeding by means of the stomach-tube, completely peptonized milk being the food most generally useful.

Hyperpyrexia is best controlled by the cold-pack, all clothing but the napkin being removed. The child is laid upon a blanket, then rolled in a wet sheet, and afterward rubbed with ice over the trunk. The blanket is then brought together and pinned beneath the chin without removing the wet sheet. The ice is reapplied every one-half hour or two hours, according to the symptoms. The wet-pack may be continued for two or three days at a time. A hot-water bag should always be kept at the feet. Used in the manner indicated, I have never seen any bad results follow this means of reducing temperature, and have been thoroughly satisfied with its effect. I

believe it to be the simplest and most efficient means at our command.

Hot-mustard baths have already been alluded to. They should be given at a temperature of 105° to 106° F., this being tested by a thermometer (lest the child may be scalded), and continued from ten to twenty minutes. They may be repeated every five or six hours.

These patients demand the closest watchfulness on the part of both nurses and physicians, but are sometimes among the most satisfactory ones with which to deal. If possible, a physician or a nurse of wide experience should always be at hand, since the issue of the case may turn upon doing the right thing at a critical moment. There are two or three cautions which I believe should be emphasized in the management of these cases. I believe we should be very cautious in using in young children such powerful drugs as those mentioned, and should carefully note the effect upon the pulse, respiration, and nervous system of small doses before giving larger ones. Great, and I think at times fatal, injury is sometimes done by overzealous medication. Another thing is the value of rest. I have known children to have so much done for them that they were simply worn out on account of the constant disturbance for feeding, baths, medicine, stimulants, enemas, etc.

By way of summary I would lay stress upon the following points in the treatment of pneumonia in very young children:

1. No depleting measures are ever admissible.
2. Hygienic treatment including fresh air, proper feeding, and intelligent care is of the utmost importance.
3. No unnecessary medication should be permitted.
4. Many annoying symptoms may be relieved by local treatment, such as the cough by inhalations, pain by counter-irritation, restlessness by the ice-cap or sponging.
5. Stimulants should be deferred until demanded by the condition of the pulse.
6. High temperature is much more safely and effectively controlled by the use of cold than by drugs.
7. Greater caution is necessary in the use of powerful stimulants than is generally observed.
8. Rest is quite as important as in in other serious diseases.

A Tablet in Memory of Doctor Gibbs. — At the 132d Anniversary of Rutger's College, recently celebrated at that institution at New Brunswick, New Jersey, a tablet was unveiled to the memory of Doctor John Blair Gibbs of New York, who fell at Guantanamo, Cuba. The tablet was presented by Professor Robert W. Prentiss, who, with Doctor Gibbs, graduated from Rutger's in the class of 1878.

THE TREATMENT OF PNEUMONIA IN INFANTS AND CHILDREN.[1]

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THE treatment of uncomplicated pneumonia occuring in infants and young children must and will remain for a time a matter of much discussion and honest difference of opinion. Our knowledge of the etiology of pneumonia has made immense strides, but this new knowledge has not as yet revealed any specific remedy in the treatment of the disease. The new facts in etiology have, however, had a tendency to broaden our methods. Whether we have reduced the mortality is a matter of much question. Acute primary broncho or lobar pneumonia in infants and young children is an infectious disease and the lines of treatment will be largely influenced by this fact. In a case of pneumonia, uncomplicated and primary, the treatment whether the disease be of the bronchopneumonic or the lobar type will be guided by much the same general principles. The treatment can never follow any hard and fast rules as to measures actively employed. There are certain things which aid the patient and others which it is well always to avoid. The treatment must be influenced by the (*a*) age of the patient; (*b*) the severity of the infection and the amount of lung involved, and (*c*) the condition of the heart. On these broad common lines we can all approach the treatment appropriate to the case.

In very young infants and the new-born, the mortality being very high, it is evident that much greater discretion is required in the selection of remedies than at a later period of life. At this tender age the indications are also much more difficult to interpret and to carry out. The temperature at this early age, in some very severe types, is subnormal; you would, therefore, be at once relieved of the necessity of considering any antipyretic measures. Your attention is drawn to another direction. The following case will illustrate this phase of the subject:

Female infant, three months and three days old; breast-fed; weighs 9½ lbs.; is well covered. It has been ill for three days with a cough, dyspnea, and refuses to take the breast. Examination reveals a very mild degree of cyanosis, great dyspnea with a harrassing cough and frothy expectoration. Lung reveals a pneumonia in spots on both sides of the chest, behind and in front, and areas of collapsed lung, especially over the upper lobe behind on left

[1] Read in the Section on Pediatrics of the New York Academy of Medicine, November 10, 1898, in the discussion on "The Treatment of Pneumonia in Children in Hospital and General Practice."

side. Heart, 210 beats to the minute; respiration, 50; temperature 99° F. in the rectum; urine contains a trace of albumin; no casts.

In this case the intensity of the infection and the excessive heart-action would first claim our notice. An infection which involves areas disseminated over both lungs and which drives a heart at the rate of 210 contractions per minute will soon exhaust such a young infant unless we are able to aid the heart and overcome the poison of an infection so profound. The subnormal temperature is also a very strong argument against those who always contend that the bath (cold) treatment is the sheet-anchor against the spread of infection; in other words, the temperature is a measure of the infection present. This is not so. And here let us take up the question of infection as it presents itself. Have we anything that will directly combat an infection so intense? We have not. Some years ago, R. von Jaksch thought that he had discovered such a means. He argued that in pneumonias of children, especially of the lobar type, the leucocytosis which is present in most cases and which increases at the approach of the crisis is absent in some of the cases in which infection is profound. The patients succumbed directly because of the absence of this salutary leucocytosis. He thought he had found in phenacetin a drug which would favor the production of a leucocytosis in cases in which this blood state was absent, and thereby the crisis could be hastened, nay assured. All this has since been cast much in doubt.

In a case such as has been related above we must reduce the pulse and support the heart. In these cases small doses of digitalis, the tincture, or tincture of strophanthus stand us in special need. The latter drug sometimes is much better borne by the patient. If we use digitalis when the pulse-rate is high and there is threatened collapse of the right ventricle, we must give the drug in ½ minim doses frequently repeated until the desired effect is attained. Former practice was to give aconite both in these cases and in those in which the temperature was high. To reduce the action of a heart by weakening it as aconite does is not as safe, at least to the right ventricle, as the mode of reduction effected by digitalis. In these cases we will do best not to administer nitroglycerin in threatened or actual edema of the lung. The experience with this drug at the bedside of very tender infants is discouraging; its action is too rapid and evanescent and it seems to favor the very condition, an eventual cardiac failure, which we desire to avoid. Camphor, ammonia, caffein, and musk, also, are not sustained in action. Strychnin in doses of $\frac{1}{100}$ of a grain given hypodermically is a very useful drug.

In cases of sudden acute heart-failure our main reliance must be placed on hypodermics of alcohol and ether; first the latter, then the former. In cases such as detailed tepid or warm baths always seem to have a stimulating effect tending to restore the circulation and to draw to the skin the blood which has been driven into the interior.

Poultices or cataplasm do not work any good, nor can their use be justified on any scientific grounds, either in the above set of cases or in any form of pneumonia. Opium is very badly borne, and in these young infants with asthenic symptoms, only tends to deepen the stupor into which the disease and its poison seems to have plunged the patients. Opium is distinctly contraindicated in weakly, idiotic, or semi-idiotic infants; they seem to bear the drug very badly. The following case belongs to this type, the patient being treated for an extensive double pneumonia two weeks in duration without opium:

Bronchopneumonia.—Mongolian idiot; weak heart; recovery. Male; weakly infant eight weeks old; had been ill some days, mother says four, before being seen; is breast-fed, and weighs about six pounds; is built quite small, but is not emaciated. Examination shows a pneumonia in right lung, lower lobe, behind, and in the left lung; disseminated areas in both lungs. At base of both lungs there does not seem to be expansion; air is not heard entering.

In this case there was a constant cyanosis, the chest walls did not expand but were sharply drawn in at the lower portion. There was evident lack of action of the intercostals and the infant was in addition to pneumonia suffering from collapse of the lung. Recovery took place slowly within fourteen days, with recurrence of temperatures for fully a week; lung gradually cleared. No baths given, no antipyretics though the temperature was constantly high. The heart alone received treatment in the form of tincture of strophantus in small doses.

On the other hand, allow me to direct your attention to a case in which there was a constant high temperature in which there was a set of severe nervous symptoms. Yet it would be out of question to treat this patient by cold baths or too energetically with warm baths; nor could we resort to antipyretics on account of extreme cardiac weakness.

Pneumonia.—Intense infection; convulsions; tetany. Female infant five weeks old; is quite small, but not atrophic; is well covered; had been ill for two days previous to visit; breathes very rapidly; little or no cough; does not nurse; bowels regular, and we find nothing abnormal in the examination of the feces.

On examination we find a pneumonia on the right

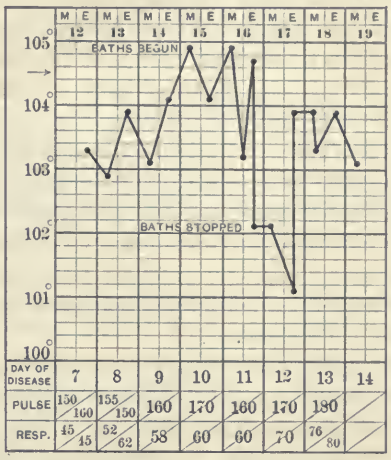
side behind above spine of scapula, also over lower lobe; fine crepitations. Left side behind, dulness and bronchophony over the middle of the chest in small areas; crepitations over rest of lung; pulse very flickering and scarcely to be counted; heart sounds normal; liver normal; spleen normal. There is an appearance of great prostration; peripneumonic groove depressed.

In two days convulsions set in without any marked spread of physical signs. The infant was in a state of constant tetany with opisthotonos; preceding this state of constant rigidity, the infant had convulsions in which it stopped breathing; pulse became scarcely perceptible; it became blue in the face, and its pupils dilated. Under ether injections pulse would return and color become normal and pupils contract. Such attacks would recur at intervals. After twenty-four hours this state gave way to tetany, which involved the extremities and muscles of the neck, at times with exacerbation of opisthotonos. After three days edema of the lungs set in with a heart acting very indistinctly; pulmonic sounds scarcely heard. The treatment in this case endeavored to support the heart and alleviate the condition of tetany by nerve sedatives.

In young infants suffering from a bronchopneumonia of the varieties detailed above, some clinicians of vast experience have urged the use of an emetic, either turpeth mineral or antimony in the course of the disease to rid the bronchi of an accumulated secretion. This is always of questionable utility, for emesis is produced only at the expense of the heart in these cases.

Let us turn to a type of pneumonia in infants in which the symptoms are of a more sthenic variety, though the infection is just as profound as in the first type: Infant five months old, male; bottle-fed; no hereditary history. October 5th was taken ill; had signs at first of a general bronchitis, which soon gave way to signs of pneumonia. Was seen on the tenth day of the disease in consultation. Found an infant well nourished but pale and slightly cyanosed at the lips; great dyspnea; respiration, 60; pulse, 170; temperature from 104° to 105° F.; pneumonia fully developed in the lower lobe of the left lung, giving dulness, bronchial voice and breathing and crepitant râles; four or five bowel movements, varying from yellow to greenish and more fluid than normal. Temperature being high and there being some twitching of the facial muscles, baths were at once resorted to; baby put in bath at 85° and water reduced to 75° F., duration five minutes. The reduction of temperature was slight, 1° at first, and after bath condition was not improved; the baths were repeated every three hours with result shown in chart. Here the infection was so extreme as to involve also the bowels, which toward the exitus gave much concern in the case.

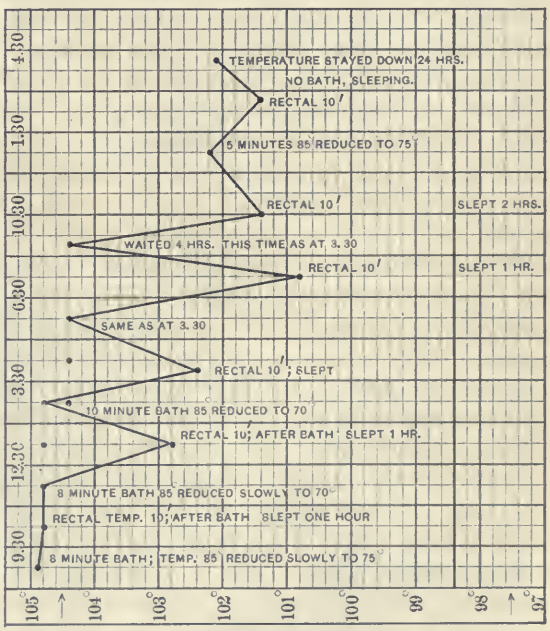
Chart A.



The temperature tracings in case of infant five-months old.

In this case not only the heart but the constantly high temperature claimed active interference. Baths were not well borne toward the close, either cold or warm, after several had been given; the heart was supported by means already detailed. Baths were discontinued for reasons shown in the charts.

Chart B.


4.30
1.30
10.30
6.30
3.30
12.30
9.30
TEMPERATURE STAYED DOWN 24 HRS.
NO BATH, SLEEPING.
RECTAL 10'
5 MINUTES 85 REDUCED TO 75
RECTAL 10'
SLEPT 2 HRS.
WAITED 4 HRS. THIS TIME AS AT 3.30
RECTAL 10'
SLEPT 1 HR.
SAME AS AT 3.30
RECTAL 10'; SLEPT
10 MINUTE BATH 85 REDUCED TO 70
RECTAL 10'; AFTER BATH SLEPT 1 HR.
8 MINUTE BATH 85 REDUCED SLOWLY TO 70
RECTAL TEMP. 10'; AFTER BATH SLEPT ONE HOUR
8 MINUTE BATH; TEMP. 85 REDUCED SLOWLY TO 75
105° 104° 103° 102° 101° 100° 99° 98° 97°

Temperature tracings showing remissions after the baths, which were given every three hours, from 9.30 A. M., October 15th, to 4.30 A.M., October 16th.

On the other hand, in infants from six to nine months in whom the pulse is good and the temperature is high and in whom even the amount of lung

involved is considerable, baths are well borne when indicated. A temperature above 104° F. for two days is a plain indication for bathing or cold pack. Frequent baths of any kind are to be deprecated. They tend to an effect contrary to what we strive for. It is said that the baths do not palpably reduce temperature in these cases. This is frequently so, and yet in many cases they seem to refresh the patients if given no more than twice or three times in twenty-four hours. Jurgensen explains the beneficial effect by the fact that though in some cases the real remission of temperature is not great the sum aggregate of the small remissions is considerable.

The following case seen in consultation will well illustrate how a normal bronchopneumonia will act under skilful management.

Female, aged seven months; weight, approximately, eighteen pounds; bottle-fed; sick eight days. Area of bronchopneumonia, lower right lung in axilla and upper part left lung. Temperature, 104.5° F.; pulse, 130; respiration, 60; general condition excellent. Sponge baths of cold water reduce the temperature several degrees without signs of collapse. In addition drop doses of tincture of digitalis are given, and some little opium and ipecac. Here very little medicine was being given, the food was limited to less than the amounts allowed in health. Sponging was indicated not only by the temperature but by some nervous twitchings of the muscles of the hands and face. The cardinal guide is never to repeat a bath, warm or cold, unless it is found that with the reduction of temperature, whether this be slight or marked, the heart-action remains good. There must be no symptoms of exhaustion or collapse. Some infants and children will not bear baths, warm or cold, of even momentary duration. They become blue, threaten to stop breathing, and the pulse at the wrist becomes almost imperceptible. In giving the first bath it is well for the physician to be at hand and ready to counteract the bad effects should they appear. Sometimes, as in cases related by Jurgensen, these effects only appear after many baths. It is then we have a distinct indication to discontinue. Never give baths when the temperature has started on a decline (see chart), temporary or permanent. All men of large experience have had scores of cases in these infants which have been treated successfully without baths. This is especially so when the means of carrying out the treatment are not at hand. In these cases small doses of the antipyretics are of great value. These drugs have been brought much into disrepute through the administration of large doses, too large for the age of the infants. Infants aged six months to a year will bear from ½ to 1 grain of antipyrin or phenacetin combined with digitalis in ½ to 1-minim doses quite well. Opiates in these older infants who have what might be termed a normal type of pneumonia is well borne, but only in small doses, never hypodermatically. Opium here is rather a stimulant and relieves pain to a certain extent. We should use in these infants the weaker preparations of opium such as the camphorated tincture or wine. In infants in whom the pulse is good and respirations are not excessive, digitalis, strophanthus, or strychnin are rarely called for. Without any hereditary weakness or taint these stronger infants, in whom the amount of lung involved limits itself and the infection is not great, do very well on an ultra conservative treatment.

In older infants, from the age of one to two years, in whom the amount of lung involved is not large and remains limited; in whom the heart action and pulse are good even though the temperature remains constantly above 103° F., even mounting to 105° F., the tendency is to get well and therefore the physician finds himself called upon to do very little beyond relieving the cough and pain. In these cases the safer practice is to use the milder preparations of opium by the mouth, some minute doses of ipecac and in most cases a small dose of antipyrin or phenacetin not only to combat the temperature which is questionable, but also partly to relieve the pain and quiet the patient. Yet in these cases at the bedside the eagerness of the physician to apply baths and to do this every few hours is baffling. The temperature alone is not a safe guide. We expect a temperature in pneumonia. Nor is the temperature of the same significance as in typhoid fever. In the latter disease a much lower temperature is an indication for baths than in pneumonia. The temperature is not sustained enough through weeks to work the injury to the heart that it does in typhoid fever. In a normal case of pneumonia the danger of a high temperature involves the nervous system as well as the heart. A temperature above 105° F. for any length of time will soon bring on phenomena on the part of the nervous system, such as twitchings, convulsions, and tetany. Here we should resort to baths.

The more we see of infants who suffer from a normal type of pneumonia, that is, the type in which the heart is well sustained in action and the area of lung involved limited, the less we resort to alcohol. In fact only in the asthenic cases is it of use and then not to the extent that we were accustomed to think in past years. It seems that the good effects of alcohol in pneumonia of these infants have been much overestimated. In many cases the alcohol does harm by driving the heart, reducing the appetite and capacity for digestion. Alcohol in many cases

causes vomiting and nausea. We thus lose our hold on one of the principal factors in the recovery of the case, the sustained nutrition of the patient.

This paper cannot be closed without the consideration of a few facts which are constantly forgotten. The patient should be isolated from other children. Ventilation, the constant change of air, is as necessary in the management of these cases as it is in a state of health. The temperature of the sick room if feasible should be kept at about 65° to 70° F. The impregnation of the atmosphere about the patient with thymol vapor, turpentine, or creosote vapor is of very questionable utility.

TREATMENT OF BRONCHOPNEUMONIA COMPLICATING MEASLES.

BY WALTER LESTER CARR, M.D.,
OF NEW YORK.

THE bronchopneumonia of measles is most frequently observed in children whose vitality is depressed from rachitis, pertussis, tuberculosis, etc. It is also seen when there is no history except that of the rubeola.

A patient with measles should be kept in a well-ventilated room at an even temperature of 65° to 70° F., and the air moistened by the evaporation of water from an open vessel or by steam if there be much laryngitis or bronchitis. The nares are to be washed with a boric-acid or salt solution at a temperature of 100° F. A small, soft rubber bulb syringe is to be used and the cleansing done often enough to keep the mucous membrane clear of secretion. The skin is to be stimulated by water at a temperature of 100°–105° F., to which a small quantity of alcohol is added. With babies and children of low vitality friction between the scapulæ and in the axillæ is serviceable. The diet is to be simple and easy of absorption. Milk is a good food, but it is not always digested when given undiluted; it must then be given pancreatized or prepared as best suits the case.

If, however, the endeavor to prevent the invasion of the lung is not successful, we should redouble our care and attention. The patient is to be kept quiet and in bed, in a room where there are no other children. The crib should not be in a corner of the room or against the wall, but should be accessible from all sides without being in a direct draught from a door or window. The air supply is better, it is easier for the nurse to change the child's position, give medicine, or use steam if the cot be away from the wall. Counter-irritation to the chest by means of a mustard paste, 1 part mustard to 4 or 5 of flour, or a mustard bath at a temperature of 95°–100° F. will loose the labored breathing, lessen the congestion, and calm the nervous system. Early stimulation to the chest is never to be overlooked, but care must be taken that the delicate skin of the infant is not blistered. The first evidence of the rapid breathing and cyanosis calls for oxygen and it does greater good than when administered late in the disease. The oxygen is to be given freely and its effects noted. Poultices are not to be applied, as their weight and the need for constant renewal are reasons why they are harmful in a disease that is protracted and accompanied by weakness and depression. Jackets of flannel and of flannel and oiled silk are much better than poultices, as the skin under them can be cleansed.

Steam alone or with oxygen will prove of service in many cases, but to envelop a child with steam until the skin is covered with moisture is not conducive to comfort or well-being. The steam is to be given for a few minutes at a time when the breathing is difficult or when the mucus secretion is tenacious and expectoration is troublesome. The vapor is to be directed under a tent by means of a tube and funnel. In some instances the addition of compound tincture of benzoin seems to be soothing. Turpentine will aid a slow resolution.

The diet is to be the best that can be provided, not so much in quantity as in quality. An infant at the breast should have the natural supply, supplemented as need be by a few drops of beef-juice, peptonoids, and egg water. Older children should be fed peptonized or diluted milk, cream with water, soups, meat jellies, custards, beef-juice, scraped beef, and such other foods as can be given in small quantities without distending the stomach and intestines or adding to a catarrh of the enteric tract. Water is always allowable and patients should have plenty of it. As bronchopneumonia is a protracted disease the management of the diet deserves more thought than the average physician bestows upon it. Forced feeding is to be tried when other means fail.

Children who are flatulent and whose movements are fetid and contain mucus are relieved by intestinal irrigation with a normal salt solution. The effect of the solution is beneficial in cases in which the pulse is poor and the vitality low.

Baths and wet packs are to be used to reduce temperature, and a bath at 95° F. gradually reduced to 85° F. with friction will do more good than any other antipyretic. The pack at 65° to 70° F. is often the best means to reduce temperature and lessen the nervous symptoms of a pneumonia. The effect on the peripheral circulation is better than a bath at a higher temperature.

The medicinal treatment of bronchopneumonia is

not always satisfactory, but there are drugs that are valuable and their use must not be omitted. In the early stage, when there is a general bronchial catarrh, a few doses of castor oil given in an emulsion with a small quantity of ipecac will clear the air-passages of mucus and move the bowels. Calomel is a drug that has a decided effect in many cases when the digestion is interfered with and the liver is engorged.

Codein in $\frac{1}{16}$- to $\frac{1}{4}$-grain doses will lessen restlessness and troublesome cough early in the disease, but at times the camphorated tincture of opium will be the best preparation of opium to give. Nitroglycerin has an important place in the treatment of pneumonia, and is indicated when the heart's action is weak, with pale skin and poorly filled arteries. Without doubt it lessens the pressure in the right heart. It is to be given in doses of $\frac{1}{600}$ to $\frac{1}{100}$ of a grain. Strychnin, preferably the nitrate, is a valuable agent and its use for a weak heart struggling against the pulmonary engorgement is satisfactory and life-saving, but its action on the nerve-centers is to be remembered or else a child will have symptoms not due to the disease. Strychnin should be given in solution in doses of $\frac{1}{600}$ to $\frac{1}{60}$ of a grain, and it should be administered hypodermically if the emergency demand it. Digitalis, strophanthus, and caffein have their places as heart stimulants, but are not so valuable as strychnin and nitroglycerin.

Digitalis steadies the heart, but it contracts the arterioles and its value depends more upon its effect on the systemic than on the pulmonic circulation. Whisky and brandy are needed in most cases of bronchopneumonia, not always early in the disease, but when the inflammation is lessened and vitality is low or when there is atelectasis. They are not to be given as a routine treatment in all cases, but most children will do better if alcohol is administered at some time during a lobular pneumonia.

The aromatic spirits of ammonia in doses of 10 or 15 drops added to water will help expectoration and prove a suitable stimulant when alcohol in other forms is not used. Creosote is a valuable drug in the pneumonia of children whose history is tubercular or when there is free purulent secretion. Late in the pneumonia it is beneficial when continued with cod-liver oil. Creosote in ½ to 1-minim doses or given as the carbonate in 2 to 8-drop doses is a good cough mixture if used with a thick malt extract. Cod-liver oil has an important, dual position in the treatment of pneumonia in children. It is often the fat food that is required and the disease is lessened in severity by its use. I do not hesitate to administer it in every case in which the digestion is not impaired or the temperature high. Cod-liver oil will lessen the severe cough of a long-continued pneumonia and it is of service when given with creosote and whisky. Quinin is helpful in more cases in which the disease is protracted with an irregular temperature than in those with pertussis. The iodid of iron and the hypophosphites are not to be forgotten in the exhaustion and weakness of a protracted convalescence.

Antipyretics of the coal-tar class, cough mixtures with emetics and nauseating drugs are best omitted. Young children do not expectorate, and syrups with expectorants only derange the stomach. Special indications for drugs are to be met as they arise, but the most satisfactory results in the treatment of pneumonia complicating measles will come from the careful nursing and feeding of the patient and the administration of remedies that will add strength and resistance to stop the advance of the invading micro-organism.

HYDROTHERAPY IN THE PNEUMONIA OF CHILDREN.

BY SIMON BARUCH, M.D.,
OF NEW YORK.

HYDROTHERAPY in the treatment of the pneumonia of children being assigned to me for discussion, I shall confine myself strictly to this branch of the subject and omit all reference to other measures, such as absolute rest and isolation, careful nursing, perfect ventilation, and feeding. These are quite as important as, and often more important than, hydrotherapy.

The guiding principle in the treatment of the pneumonia of children should be to *treat the child and not the disease.* Until we possess an antitoxin it is wise not to follow the practice of the past, the object of which was to throttle the disease by bleeding, blistering, veratrum, antimony, quinin, etc.; nor to follow implicitly the expectant practice of the present, which meets the symptoms of high temperature, heart failure, etc., as they arise and provides chiefly for a comfortable passage through the ordeal.

The mission of the modern physician is the same to-day as it was in the day of the great Nestor of Medicine, Hippocrates, and as enunciated by the philosophic Esclepiades and his disciples, *to aid the vis medicatrix naturæ* by endowing the system with all possible strength to enable it to struggle successfully against the lethal tendencies of disease.

The dangers in the pneumonias of children are: (1) Toxic contamination of the nerve-centers. (2) Respiratory embarrassment. (3) Cardiac adynamia. Among the remedial agents which have been assiduously plied to meet these dangers the judicious use of water stands easily foremost. This statement

is not only based upon my personal observations but it is confirmed by the great pediatrists of Germany and France. Baginsky writes that "the chief aim of treatment is to moderate fever and maintain the strength and that both indications are well fulfilled by cold compresses which are life saving." Penzoldt analyzed 2200 cases of pneumonia in children, and from this enormous material concluded that "preference should always be given to a cautious bath treatment." Le Gendre writes, "This method is of especial value in infantile therapeutics; it may be used for the youngest child." Hutinel says: "Patients who have been bathed 'return to life.'" Strong commendation this, which I might multiply, if time permitted. Our own Jacobi favors this treatment also, as you all know, in pneumonias with high temperature.

No remedial agent is entitled to acceptance, however, if its action be not explicable by sound reasons. What is the rationale of the action of cold-water applications to the skin in pneumonia? A contraction of the cutaneous vessels ensues, followed by an active dilatation, which furthers the flow of blood through that enormous vascular area of the skin, which it is said is capable of holding from thirty to fifty per cent. of the entire blood of the body. What is the result? The heart is relieved of much of its labor and all the functions depending upon an unembarrassed circulation are promoted. It has been shown by reliable experiment that in rabbits poisoned by injections of pneumococci the vasomotor center in the medulla is depressed and the peripheral vessels are thus relaxed and become passive. Instead of actively participating in the propulsion of blood as is their normal wont they now permit it to passively flow through them favoring engorgement and throwing additional work upon the heart which is already embarrassed by the toxins circulating in the blood and probably also by high temperature. Increase in rapidity and diminution of tension are the result, enhancing the existing pulmonary engorgement, increasing dyspnea, diminishing excretory activity and thereby promoting retention of toxins which sooner or later overwhelm the nerve-centers, elevating the temperature and which start the vicious circle anew. We have no medicinal agent upon which we can rely to overcome this vasomoter "paralysis."

The application of cold water to the skin arouses a neurovascular excitation which is transmitted to the central nervous system from which it is conveyed to the heart, increasing the ventricular force, with a better filling of the arteries; to the lungs, deepening inspiration, with an improved expulsion of accumulated secretion; to the skin, favoring heat diffusion and reducing temperature; to the kidneys, increasing enormously the quantity and toxicity of the urine. In fine, the disturbed machinery of the sickened organism is started into a more normal activity; its conservative mission is resumed; the *vis medicatrix* is raised from the slough into which the disease has cast it. Theory and practice combine, therefore, to attest the value of water as an agent to fortify the organism against the onslaught under which it is staggering. Being a two-edged sword, it is of paramount import that water be applied with judgment and discrimination, according to the exact demands of each individual case, and that its use be continued without fear or favor, unless some contraindication arises.

Time will permit me to offer only a general outline of the hydriatic procedures which I have found useful and to inculcate the necessity of using each with due regard to its rationale. In children under three years, the tub bath with continuous friction is most useful. If the body temperature is between 101° and 103° F. a tub is placed upon two chairs, near the bed; it is half filled with water at 95° F. The child's face is now bathed with water at 75° F., and its trunk is gently submerged and held by pressing the fingers upon one shoulder (not upon the chest). Ice-water is now added, without being allowed to touch the child's body, until 85° F. is reached; friction over the entire body is maintained for five minutes.

This is a good initiatory procedure; it may be repeated every four to six hours with advantage so long as the temperature does not fall below 101° F. When the body temperature is above 103° F. the bath water may be reduced to 80° F., very rarely lower, and never so low as some bath temperatures mentioned here this evening. The duration should be prolonged to eight minutes; in this event it requires repetition every four hours. In the intervals between the baths a compress, covering the entire anterior part of the trunk, consisting of three folds of old linen or a towel (without fringes), wrung more or less out of water at 70° F., and secured by a flannel bandage placed around the body, may be applied with advantage every hour when the patient is not asleep. This procedure not only fulfils every indication but it also renders the demand for bathing less frequent. When delirium and stupor are present, when cyanosis is pronounced, and cardiac action embarrassed, when the bronchi are clogged with secretions, increasing dyspnea, in these conditions, which are so frequent in bronchopneumonia of children, the full bath may be changed to dips into water at 80° F. or less for a few seconds, repeated two or three times in rapid succession every hour,

the temperature, duration, and frequency being in accord with existing conditions. An excellent procedure in these desperate cases is the affusion with basins of water at 60° F. or less poured over the head and shoulders of the patient, who is held semi-recumbent in a tub containing water at 100° F. Rapid drying and friction are demanded after these procedures, because the patient's reactive capacity is below par. Body temperature is not an index for the cold affusion, which should be given in these desperate cases even if the temperature is low. We aim to stimulate the central nervous system and thereby improve the circulation, respiration, and expectoration. When the child is restless, an occasional full bath at 95° F., prolonged for ten minutes, will prove soothing.

In most children over three years of age full baths are too disturbing. A younger child will become quiet as soon as it experiences relief and comfort, while the older child will continue to struggle and scream. Whenever the child is tractable I prefer the full bath, but I insist upon it in every case when other treatment proves inadequate. Having observed that the toxins of pneumonia endow the patient with less resistance to cooling procedures than do the toxins of typhoid fever, I avoid full baths colder than 75° and longer than eight minutes in the former disease. In the management of pneumonia patients larger reductions of the body temperature are not the prime object.

In most children above three years of age the chest compress, consisting of three folds of old linen so arranged by slits in the axillary portion as to fit snugly around the chest down to the navel and held in position by a flannel binder, is the most useful procedure. The linen is wrung out of water at 65° to 70° F., more or less thoroughly, according to the temperature and general condition, and the flannel bandage is pinned over it. (Oiled silk, which the nurse will recommend for protection of the bed, counteracts the object of this compress and converts it into a poultice.) It is repeated every hour and discontinued when the temperature reaches 100° F.

These are the simplest and most useful hydriatic procedures in the pneumonia of children. The time limit precludes their more detailed description.

Let me conclude with a few words of warning. Spontaneous reaction must always be provided for by friction *during* the bath so that there should be no need for warmth and friction *after* the bath. Whenever the patient becomes very chilly, with chattering teeth and cyanosed face, we may conclude that the procedure has been faulty and must be modified. A few nights ago I saw a case in consultation with a well-informed practitioner who feared water-treatment because the patient had become cold and cyanotic under a wet-pack. Inquiry elicited the fact that the patient had been simply wrapped in a cold, wet sheet (no definite temperature). She was not covered snugly by blankets, as is demanded by the technic of the wet-pack in order to promote reaction. This incident illustrates the importance of correct technic. Reaction is always furthered by rubbing during the procedure, or by protection against evaporation. It may be enhanced, also, by modifying the temperature of the water, not, as is often erroneously done by elevating it, but by lowering it within reasonable limits, and shortening the procedure. It is a law of hydrotherapeutics that low-water temperature, strong mechanical impact, and brief duration promote reaction. Higher bath temperatures are more agreeable and, if the procedure be prolonged, afford greater temperature reduction but do not produce the stimulating, antifebrile effect of a correctly adapted cold procedure.

Hippocrates has said: "Cold water stimulates, warm water depresses," and yet these important truths still remain to be taught to-day. Thus is demonstrated the crying need of instruction in hydrotherapy in our medical colleges. The internal administration of cold water plays an important part in the treatment of pneumonia as of all infectious diseases. It is refreshing, vivifying, promotes secretions, and aids in increasing the quantity and quality of the urine. One to four ounces, according to the child's age, should be given systematically every two hours, alternating hourly with milk. Cold water must be administered with the same regularity and noted on the nurse's report with the same precision as is medicine.

General Discussion.

DR. F. M. CRANDALL: There is no subject upon which medical men disagree more than upon that of the treatment of disease, and this is particularly the case in regard to the treatment of pneumonia; yet from what we have heard here to-night we must recognize the fact that in the great essentials opinions are very similar, and that the principal points are pretty well settled. For example, we are fairly well agreed that drugs form a very slender reed upon which to lean in the treatment of pneumonia; that is, those of us who see a great deal of pneumonia have come to this conclusion, for I do not think that this can be said of the profession at large. From what I have seen and heard shot-gun prescriptions are still employed, and I think that though pneumonia has killed many children, drugs have killed a great many more. Of course, there are some drugs which are employed by all of us, such as strychnin, nitroglycerin, and alcohol, but the indications for these are pretty definitely laid down,

although there is some difference of opinion in regard to the remedies to be used to control the nervous symptoms and restlessness. Other points upon which we seem to be agreed is that children suffering from pneumonia should be kept very quiet, and that careful attention must be given to the diet. As Dr. Holt has pointed out, many children suffer harm from the constant attempts to do something for them. In a case which I saw last winter the child was getting something every half hour during the day and every hour during the night, and was suffering as much from loss of rest as from the pneumonia. We must not forget, moreover, that in private practice many of these cases of pneumonia are self-limited and tend to recovery. In this they differ from those seen in hospital practice. The ordinary vigorous child who contracts pneumonia is more likely to recover than he is to die. As little medicine as possible should be given in these cases, and many recover when none is given. The diet is the principal thing. Many of these patients are improperly fed during the early stages of the disease. In the beginning there is high fever, and the child will drink anything which is given to him. If much milk is given at this time the stomach will soon rebel, and an acute indigestion, which will retard recovery, will follow. As the disease progesses the child loses his appetite, and it then becomes very difficult to get him to take sufficient nourishment. Food at regular intervals should be prescribed and its administration insisted upon.

In treating pneumonia in hospital practice I rely largely upon inhalation of steam under a tent, and upon mustard-paste. The latter is of great service, but should not be left on too long. It is easily applied without exposing the patient, and in my experience has been followed by prompt results. In some cases in which it was discontinued the nurse or mother asked to have it reapplied because of its quieting effect upon the child.

DR. W. P. NORTHRUP: The first essential in the treatment of pneumonia is an accurate diagnosis. It is not uncommon to see cases in which the cerebral symptoms have been treated by a liberal use of the ice-bag under a mistaken diagnosis. This is epecially apt to be the case when the center of the lung is the seat of the pneumonia. In other cases a diagnosis of malaria has been made. After pneumonia has been diagnosticated the prognosis should be considered, and it should be remembered that this is usually very good in the ordinary, unplicated form of the disease which is not preceded by measles, whooping-cough, or grippe, unless the attack is extremely severe. Little treatment is necessary in most of these cases, but whatever you do, do not put a child with a temperature of 104° or 105° F., and respiration at 60 in a hot poultice tightly wrapped about its chest. Particular attention should be paid to the condition of the digestion and the diet. Fresh air is also an essential. The restlessness and nervous symptoms should be relieved by the cold pack, care being taken to keep the extremities warm by means of hot bottles.

DR. BERG: It is rather unfortunate that the term pneumonia has been applied to two conditions which are radically different, especially as to prognosis and treatment. Lobular pneumonia is entirely different from croupous pneumonia, the latter being of but little importance, and the prognosis and treatment depend absolutely upon the differential diagnosis. We are all familiar with the frightful picture presented by croupous pneumonia on the second or third day before the crisis, and yet we know that these patients usually recover. On the other hand, a child suffering from bronchopneumonia looks well, and may die a few hours after you have said that he was improving. Some of the speakers have made an effort to separate the two types of disease, but this differentiation should be emphasized in every part of the discussion. Children recover from croupous pneumonia under any treatment, even under the old-fashioned poultice treatment, which is the most barbarous I know of, whereas the treatment of bronchopneumonia requires the greatest skill, the most careful therapeusis, and the closest watching on the part of the physician.

During the discussion I noticed that the use of the poultice has been but slightly recommended in the treatment of either form of pneumonia, but I was sorry to hear one of our best authorities mention favorably the use of the oil-skin jacket. I have always looked upon this as a thin, light poultice. Both should be avoided in the treatment of pneumonia. Another of the speakers, in referring to the coal-tar group of drugs, said that small doses of antipyretics seem to reduce temperature in children suffering from pneumonia; that not only is there no objection to using these drugs, but that it is desirable to do so in cases in which nursing facilities are lacking. In my experience I have found that these small doses have absolutely no effect in the vast majority of cases. Large doses, fortified by digitalis, are followed by reduction of temperature, but this is a very dangerous therapeutic measure. If there is any one group of drugs which medicine would have been well without, that group is the antipyretics. Chemistry has done practical therapeutics great injury by the development of these drugs. In spite of their value as antispasmodics and in the neuralgias, we would be better without them, for their use has been greatly abused by the ignorant practitioner of medicine. There is one drug, however, which I have found of great utility in bronchopneumonia, and that is the sulphate of quinin, given in small doses, and in powder with sugar of milk.

There is a method of treatment devised by Dr. Seymour of Troy which deserves a trial in cases of bronchopneumonia. It consists in raising the foot of the bed some eighteen inches higher than the head in order that gravitation may aid in getting rid of the secretions. The excellent results which have followed this method of treatment in cases of diphtheria, and after tracheotomy would lead one to think that it can be employed with advantage in bronchopneumonia.

One word in regard to opium in pneumonia: It is a mistake to stop the cough of bronchopneumonia in children. Nature has made the cough a safeguard to prevent extension of the disease; if you stop the cough you remove one of the means provided to make the disease a limited pneumonia.

CLINICAL MEMORANDA.

A CASE OF CHLOROFORM POISONING.

By DAVID TRUMBULL MARSHALL, M.D.,
OF NEW YORK;
ATTENDING PHYSICIAN TO THE HOME FOR THE AGED.

MRS. M., a trained nurse forty years old, the mother of two children, weight about 120 pounds, had never been ill except that for two years she had had gastritis, with occasional attacks of colic.

After eating a night luncheon, consisting of tea, toast, and a small quantity of canned salmon, she was seized with very severe pains in the stomach of a colicky nature. She took a tablespoonful of tincture of ginger and applied a hot-water bag to the abdomen, but without relief. She then took 10 minims of chloroform in a little water, which relieved her for a time. On the return of the pain she took another 10 minims, and followed this by a third dose of 20 minims—40 minims in all.

About this time her room-mate noticed that she was acting strangely and sent for me. The chloroform-bottle and minim-glass were standing on the table when I entered the room. The testimony of the woman's room-mate and the odor of chloroform on the patient's breath were enough to establish a working diagnosis. The patient was lying on the bed in a semi-conscious state. On attempting to rouse her she spoke incoherently and begged to be left alone. Her pulse was very slow and irregular and her respiration slow and sighing, at times stopping altogether, but starting again after vigorous slapping of the chest.

I seized my medicine-bag and took from it a full four-ounce bottle of a heart stimulant, containing in each dram, strychnin sulphate, $\frac{1}{30}$ of a grain; tincture of digitalis, 2 minims, and whisky, 1 dram. Of this I injected hypodermically 30 minims and repeated the dose *nine* times in the course of an hour and a half, thus aggregating, strychnin, .22 grains; tincture of digitalis, 9 minims, and whisky, 4.5 drams. After each injection the patient rallied for a moment and then relapsed into an unconscious state. On several occasions respiration ceased entirely and the heart-beat was almost imperceptible. In addition to the hypodermic medication the patient's face and chest were bathed with cold water and the chest was slapped frequently with a wet towel. Artificial respiration by Sylvester's method was resorted to and the feet were bathed with hot water. Later, when more help arrived, the faradic current was made use of, applications being made over the chest and heart. This evidently caused great pain for she begged to have it stopped whenever she had a lucid interval. Toward the end of an hour she showed signs of strychnin poisoning —*risus sardonicus* and spasmodic respiration. This became very marked so that I feared to give any more of the drug until she began to relapse into unconsciousness again, when, having nothing else at hand, I was compelled to inject more strychnin. At the end of two hours the effects of the chloroform subsided. It was nearly two days before the patient recovered from the effects of the drastic measures instituted to save her life.

In regard to the correctness of the amount of chloroform taken I am confident there is no mistake, for the patient, who was an unusually careful woman, told me afterward that she measured it carefully, but had confused the dose of chloroform (2 to 5 minims) with that of ether (5 to 60 minims) and thought she was taking a safe amount.

MEDIAN CERVICAL FISTULÆ.

By F. HUBER, M.D.,
OF NEW YORK.

BRANCHIAL or lateral cervical fistulæ are fairly frequent and always congenital. Median cervical fistulæ, on the contrary, are rare and never congenital, though due to an abnormality in the thyrolingual duct. One of three anomalies may be the result of imperfect obliteration of this fetal channel: (*a*) lingual dermoid; (*b*) median cervical fistula; (*c*) accessory thyroid. At the present time, we are only concerned with the abnormality arising in the thyroid portion of the duct, giving rise to a median cervical fistula. Such openings occur singly at some point in the median line between the hyoid bone and the sternal notch, usually about the level of the cricoid cartilage. In some instances a firm cord can be felt running up in the direction of the hyoid bone. They may occur soon after birth or not until the fourteenth year; in one of my cases not until the nineteenth year. They are always preceded by a swelling in the median line, usually about the size of an almond or hickory-nut, which may become tense and inflamed, and ruptures, or is opened by the surgeon. The sinus left is intractable, discharges a glairy mucus and, when explored with a probe, is found to run up in the direction of the hyoid bone or even behind it.

Bland-Sutton gives a brief account of a case reported in an able paper by Dr. C. F. Marshall, which established in a satisfactory manner the nature of these fistulæ. In view of this, they must be regarded in the first place as retention cysts formed in a persistent thyro-glossal duct.

The first case coming under my care was in a male, about nineteen years old, who as long as he could remember had noted an almond-shaped swelling in the median line over the thyroid cartilage. It was painless, with no evidences of inflammation, had not increased in size, and was only a source of discomfort because of annoyance due to contact with his shirt collar. It was laid open by a vertical incision, the interior cauterized with pure carbolic acid, and packed with gauze. The greater part disappeared and left a tortuous sinus running up to the hyoid bone, discharging now and then a few drops of glairy mucus. When the cyst was incised in the beginning, the same glairy mucus escaped, similar to what is found on exploring a "weeping ganglion."

The true nature of the trouble was not suspected until later. At first it was regarded as a bursa. The intractable character of the sinus, and its direction as determined by probing, revealed its true character. It persisted for more than a year, but after repeated cauterizations finally closed. There has been no recurrence for nearly two years.

Case No. 2 occurred in a child about three years old.

There was a history of a median swelling of the neck, which ruptured and left a tract running upward toward the hyoid bone, and discharging a glairy mucus at times. A thickened cord could be felt, corresponding to the sinus referred to. Operative measures were refused and the child passed from under my observation. A further point of interest was the occurrence of an occipital dermoid in an older sister.

The interesting case reported by Scudder of Boston in the MEDICAL NEWS of September 24, 1898, undoubtedly belongs to the same category. The history, the character of the discharge, the direction of the sinus, etc., all favor this view.

MEDICAL PROGRESS.

Delivery of the Placenta after Abortion.—It is often a difficult task to remove the placenta from the uterus after abortion. BUDIN (*L'Obstetrique*, September 15, 1898) accomplishes it by placing one or two fingers as high up in the posterior cul-de-sac as possible, making pressure with the other hand upon the fundus of the uterus. In this manner the organ is grasped between the two hands and the placenta can usually be expelled without difficulty. If the os is only large enough to admit one finger it facilitates matters to insert the forefinger and break the placenta up into two or three parts before expelling it. It should, in all cases, be completely separated from the uterine wall, but this is accomplished without difficulty.

Stiff Neck and Lumbago.—ERBEN (*Centralb. für Chir.*, September 10, 1898) says that in twelve cases of rheumatic stiff neck which he investigated the sternocleidomastoid was either unaffected or was secondarily involved. The position of the head was taken to relieve the pain, not on account of muscular contraction. The lesion was situated in the joints of the convex side of the neck or in the nerves coming out between them. A similar explanation was given for lumbago. Erben examined 200 patients suffering with this trouble. In no one did he find the muscles to be affected. In 119 cases the joints of the lumbar vertebræ were affected. They were painful on pressure, and pain prevented lateral flexion and a concave bending toward the sound side. In twenty-one cases there was a neuralgia of the nerves of the skin.

Gastric Fermentation.—TALMA (*Zeit. f. klin. Med.*, vol. xxxv, p. 542) insists on the great importance of the gastric fermentations which result from undigested starches and sugars. He says that fermentation is the cause of motor insufficiency of the stomach, and that the latter will usually disappear as soon as carbohydrates are withheld from the diet. The motor insufficiency can cause pyloric spasms. Fermentation is one of the causes of excess of hydrochloric acid. The spasms excited by the fermentation and the strong acids can produce ulceration of the stomach and perhaps perforation. Out of ulceration carcinoma may develop. His treatment is a simple one, and consists in withholding carbohydrates until all symptoms have subsided. Many patients if put upon raw eggs, eighteen or more in the twenty-four hours, together with oysters, butter, chopped meats or boiled fish, will recover their health in a short time. In many instances the motor insufficiency and excess of hydrochloric acid disappears in a day or two. Patients with carcinoma of the stomach on this diet get on comfortably until they near their end. Then anything will cause distress which is not absolutely bland in temperature as well as mechanically and chemically unirritating. At this period even meat and soups have to be given up, and the patient subsists upon raw eggs and water until a gastro-enterostomy is performed. Usually all signs of fermentation disappear in two weeks, but in order to prevent a recurrence of the trouble it is necessary to limit the amount of carbohydrates which are permissible for a year or two.

Percussion of the Pulmonary Apices.—OESTREICH (*Zeit. f. klin. Med.*, vol. xxxv, p. 491) has demonstrated the possibilities of an exact percussion of the pulmonary apices by the examination of a large number of subjects post-mortem. He found that the conditions for percussion were substantially the same upon the dead as upon the living, and the former offered the tremendous advantage of allowing an immediate verification of the findings. In this manner he ascertained that a single nodule of consolidation in the apex had to reach the size of a cherry before its presence could be shown by percussion. If smaller than this it could not be recognized, even though it was situated upon the pleura. But if there were several nodules close together they could be detected, even though the individual nodules were much smaller than a cherry. No reliance could be placed upon opinion as to the situation of nodules or their exact size. All that could be determined was the presence or absence of consolidation in a given apex.

Oestreich found that he could obtain far more delicate results by percussion with one finger upon another than he could by using a hammer and pleximeter. Skill in making an exact diagnosis by percussion varies with the individual, but is greatly increased by practice. Attention is once more called to the fact that tubercle bacilli grow in the lung for a considerable time before the ulceration of the mucous membrane results in their presence in the sputum, so that there is often an area of consolidation readily distinguishable by percussion when the sputum is absolutely free from the bacilli. Hence the "negative examination" of the sputum is not by any means proof that tuberculosis of the lungs does not exist. In every case of beginning phthisis of the apex there is a diminution in size of the affected pulmonary tissue, which can be made out by very light percussion. For nodules sometimes the percussion needs to be strong so that the examiner is cautioned not to fall into the habit of percussing only with a light stroke. When the affected tissue becomes diseased and shrinks there is an increased distention of the surrounding tissue, so that a slight tympanitic note results. From these two factors result the dull, high-pitched resonance which is noted on the affected side. Oestreich also demonstrated the accuracy of percussion of dead bodies by successfully locating cavities, pleuritic effusions, pneumothorax, isolated air-

spaces in the abdomen, increase in size of the different chambers of the heart, hydropericardium, and variations in the size of the liver and spleen, thus showing that the method is as accurate after death as before.

THERAPEUTIC NOTES.

The Radical Cure of Spina Bifida.—NICOLL (*Brit. Med. Jour.*, October 15, 1898) believes that any case of spina bifida may be operated on with a fair chance of success. If the neck of the sac is small it is sufficient to pass a ligature about it. In larger sacs he employs rows of catgut suture. Long flaps of skin and mesoblastic tissue are used to close in the gap. The sutures are applied in such a manner that the redundant margins of the mesoblastic flaps are curled inward just as the cut margins of intestine are curled inward by a Lembert suture. The skin is sutured in a similar manner but its edges are turned outward. The ridges thus formed in the median line add to the strength of this posterior covering of the spinal canal. Of thirty-two patients operated upon twenty-five recovered. In some of the fatal cases hydrocephalus was associated with the spina bifida.

Treatment of Hydrocephalus by Intracranial Drainage.—SUTHERLAND and CHEYNE (*Brit. Med. Jour.*, October 15, 1898) employed intracranial drainage in three cases of hydrocephalus, acting upon the theory that the distention of the ventricles is due to the closure of the channels of communication between them and the subarachnoid spaces. Fluid cannot collect under pressure in the subarachnoid spaces since they are in communication with the veins. The two lateral ventricles usually communicate freely in hydrocephalic children so that it is considered sufficient to establish drainage on one side of the brain. The first patient so operated upon was an infant six months old with congenital progressive hydrocephalus. Sixteen strands of fine catgut were tied together and were used as a drain from the ventricle to the subdural space. A very small opening was made in the dura and both this and the incision in the skin were closely sutured. The child recovered from the operation, the wound healed perfectly, the head diminished rapidly in size, but there was no improvement in the child's mental condition, and in three months it died of basilar meningitis. A second patient operated upon also recovered from the operation but the head diminished in size upon the operated side only. Three months later the side not operated upon was still much distended showing that communication between the ventricles had ceased. Accordingly a second operation was performed upon that side and with entire success. The child improved physically but showed no evidence of mental development. Another patient twelve months old was operated upon in a similar manner without success. The second operation was performed, but before any possible good effects had time to manifest themselves the child died of measles with complications.

The Value of Fasting in the Treatment of Acute Infectious Diseases.—DOMINICIS (*Centralb. für Inn. Med.*, September 10, 1898) as a result of his own investigations concludes that fasting within certain limits increases both in men and in animals the power of resistance to microbes and their toxins. The reason lies in the fact that any form of nourishment, even milk, undergoes a putrid fermentation whenever the digestion is not perfect and the toxins which result from this so alter the tissues and fluids of the body as to weaken their resistance to bacteria. The favorable influence of fasting and disinfection of the gastro-intestinal canal has been abundantly proved clinically, especially in cases of pneumonia.

Treatment of Migraine.—KOVALEWSKY (*Rev. de Therapeut.*, October 1, 1898) recommends the following prescription in the treatment of migraine:

Sodii bromid.	℥ ii
Tr. strophanth.	℥ ss
Cocain. hydrochlorat. . . .	gr. iss
Aq. aurantii	℥ vss.

M. Sig. A tablespconful three times a day.

This medicine should be taken at intervals for a period of two years. If the patient is alcoholic, tincture of nux vomica may be substituted for the cocain. When the pain is very bad the following prescription may be given in divided doses:

Caffeinæ	gr. ivss
Phenacetin	gr. xxii
Antipyrin	gr. xv
Antifebrin	gr. xxii.

SARACON, in the same journal, recommends the mechanical treatment of migraine by an apparatus like a double spring truss for hernia. Two pads are placed upon the temples which they compress with considerable force. He claims to have had satisfactory results from the use of this instrument.

The Treatment of Insanity from Traumatism.—HARRISSON (*Liverpool Medico-Surgical Jour.*, July, 1898) describes four cases of insanity following fractures at the base of the skull, one following bullet wound of the brain, and three following blows upon the vault. It is a mistake to consider a patient out of danger as soon as a wound in the skull is healed. Such patients may develop insanity as a result of the depression of the skull or splinters of bone, or from a thickening of the bone, or from cysts. Seventy-seven such cases have been recorded, in which operation was performed for the resulting insanity, and of these only 7 patients had been operated upon immediately after the accident, although in 48 symptoms of depression were present. It is interesting to note that in only 4 of these 77 cases was the dura opened. This shows that an operation of this character is comparatively safe, while the improvement which follows in many instances is extremely gratifying.

Of the 77 reported cases, 5 deaths occurred. Of the 57 cases reported in the last 17 years, only 2 patients died. Of mental recoveries, 51 are reported; of great improvement, 12 cases; of slight improvement, 5 cases; no improvement, 4 cases. Of these 4, 2 patients showed temporary improvement before relapsing, and in 1 there had been no local indication for operation.

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A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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Address the Editor: J. RIDDLE GOFFE, M.D.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK.

Subscription Price, including postage in U. S. and Canada.

PER ANNUM IN ADVANCE	$4.00
SINGLE COPIES	.10
WITH THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, PER ANNUM	7.50

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LEA BROTHERS & CO.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK,
AND NOS. 706, 708 & 710 SANSOM ST., PHILADELPHIA.

SATURDAY, NOVEMBER 19, 1898.

WE present this week the symposium of eminently practical papers on pneumonia in children, which were read by well-known authorities on children's diseases at a recent meeting of the Section on Pediatrics of the New York Academy of Medicine. It is an extremely timely subject, and we feel sure will be thoroughly appreciated by our readers. Of special practical interest to the general practitioner is the stress that all those who took part in the discussion of the subject laid on the necessity for fresh air in the sick room. With the old prejudices as to drafts, etc., that are still so strong, fresh air is one of the hardest things to secure in the management of pneumonia in private practice. The suggestion that there be a second room into which the little patients should be carried for several hours each day while the ordinary sick-room is being thoroughly aired deserves to be kept in mind in all cases.

More and more is the realization coming that in all lung troubles fresh air is the most important factor in therapeutics, and that the rebreathing of air, the inhalation of organic products of respiration, is apt to be serious in its consequences. In the treatment of pulmonary tuberculosis this is the dominating idea at present. How important it is considered to be in pneumonia cases, in Europe, may be judged from the fact that in many of the large teaching clinics a pneumonia patient is kept but a few minutes at most before the class, unfortunate experience having shown that patients kept for any length of time in a crowded clinic-room are very apt to have a turn for the worse, a retarded or incomplete crisis, or some complication that his condition before presentation to the class gave no reason to anticipate.

DURING the past few years one has read now and then of a new sect of healers calling themselves osteopaths who profess to cure disease "by utilizing the system of drugs which the body has within itself to cure all infirmities," but probably few physicians realize that the form of paranoia which osteopathy stands for is spreading so rapidly that it bids fair to become a menace to personal safety, as well as a public nuisance. It has now a number of so-called colleges in which it is said that candidates study, are graduated, and are taught to believe that "a loving, intelligent Maker of man has deposited in some place in this body or through the whole system drugs in abundance to cure all infirmities, which can be administered by adjusting the body in such a condition that the remedies may naturally associate themselves together, hear the cries, and relieve the afflicted." These are scattered throughout the country, principally in the West, and their doctrines are disseminated by several journals of osteopathy which circulate in every part of the land. The fact that osteopathists have been able to so influence legislation that their right to practise is legalized in a number of States, such as Iowa, North Dakota, Michigan, Illinois, North Carolina, and even Vermont, shows that the sect has already become a facultative saprophyte. Although the Empire State has very stringent laws regulating the practice of medicine within its confines osteopathy flourishes here, as witness a recent article in the *Cosmopolitan Osteopath*, which states that Dr. ———, who five years ago was a traveling "drummer," now enjoys the distinction of having the largest and most lucrative practice of any graduate in the science (sic) of osteopathy now practising the profession. Some idea of the constitution of the osteopathist's clientele may be gathered from the

statement that among the regular patrons of one of its practitioners in New York city during the past year was the chief dignitary of the Protestant Episcopal Church in this State.

That the disciples of this most senseless and grotesque of all healing cults take themselves seriously is shown by the fact that a contemporary, the *Medical Age* of Detroit, has been sued for $25,000 damages by one Dr. William Smith, Osteopathist, of the *Journal of Osteopathy*, to cover the injury that has been done him by an editorial which appeared in the *Medical Age* reflecting on osteopaths generally and on the above-mentioned osteopath particularly. Although we must confess our entire ignorance of Dr. William Smith's history we feel quite safe in hazarding the guess that he has at least heard of a game called poker in the successful playing of which bluffing has a very conspicuous part. The player who calls the bluff, however, pockets the cash. Dr. William Smith, Osteopathist, is putting up a big bluff, but the proprietor of the *Medical Age* has called him very promptly, and in a way that augurs ill for the hypersensitive bone-sufferer. Our advice to him is to place himself under the care of some brother osteopath who should apply himself to discover what "slight displacement of some bone is causing obstruction to the flow of one of the fluids of his body" (as this is one of the props on which their "science" is founded) to account for his erethism. The *Medical Age* is abundantly able to take care of itself and we need hardly assure it that it can count upon the moral support and commendation of the medical profession and its representative journals.

SOCIETY mamas seem to be considerably exercised (as indicated by the unrestrained expression of opinion at the recent meeting in New York of the Association of Women's Clubs) over the fact that the duties of the modern trained-nurse sometimes give her opportunities of making herself agreeable to the modern young man in a way that at times leads to matrimony. Some of the mamas even ventured to hint that it is with a sense of trepidation that they see their sons take up the duties of hospital internes, where for a year or more they are to have no feminine mentor to guard them from the wiles of "taking" nurses, and are to be the legitimate prey of designing femininity in the fetching cap and gown of nursedom.

The dear, fond mamas have our sincerest sympathy, but if their matrimonial plans for their young hopefuls suffer shipwreck because some siren has proved too attractive on the voyage of life, long before the vessel freighted with their hopes comes to the port they wished for, we must remind them that there have always been sirens, and that even when Homer wrote, the story was as old as the seas. For the young doctor we have no message in the matter, not even a bit of advice, but we hope that our continence will be properly appreciated; for when a man has a chance to advise another in regard to matrimony and does not take advantage of it, he is either a hero of self-denial or a very sincere friend. The hospital interne as we know him is thoroughly capable of taking care of himself even in matrimonial matters.

There is a lesson in the matter that is, perhaps, worth the pointing out. It is that the modern young man is apt to be easier "taken" by a woman who knows how to make herself practically useful in life than by one whose whole duty seems only to be as pretty as possible. There is a utilitarian spirit abroad that demands the useful with the beautiful, *utile cum dulce*, and if sometimes an unwary student of Nature turns aside from the dilettante contemplation of butterflies to the serious study of the trim and busy honey-bees, it may be set down as no more than the time-spirit breathing where it will, despite social conventions and the artificial barriers that have ever vainly opposed it. Meantime, no higher or sincerer compliment could be paid to the character of the professional nurse than that doctors who are brought so intimately in contact with her should seek her as a wife. The English-speaking profession may well congratulate itself on the body of self-respecting and respected women which it has raised up for its aid in the treatment of disease, to replace the nondescript nursing material that existed before. Nowhere else as yet have they the trained nurse as we know her here and in England, but other countries are hastening to emulate us in the possession of so good an institution. *Macte virtute puellæ, sic itur ad astra.*

THE English coroner's jury in the Harold Frederic case brought in a verdict of manslaughter against a member of Frederic's household and

against the Christian Scientist who had been in attendance upon him. Some of the details that came out in the evidence during the trial are very pathetic. At first Frederic seems to have consented to have a Christian Scientist attend him. Then, disgusted with the evident sham of it, he asked that her visits be discontinued. Through a member of his household the Christian Scientist continued to gain admittance, until finally Frederic had to appeal to his former medical man to protect him from the annoyance that she was inflicting on him by her visits. Even the appeal of the physician to the "healer" was, it seems, for a time, unavailing. She persisted in calling, at so much a visit of course, the cross examination bringing out very clearly that she was making lots of money by her *Christian* healing art.

The principle of English law under which the verdict is rendered is that the commission or omission of any act tending to shorten the life, even of a person who is mortally ill, is manslaughter. It matters not if such commission or omission be not intended, if there has been neglect of duty, the responsibility for the result remains and must be met. The principle is the one that should be the guide in our own courts. The necessity for legal interference in the matter is made clearer than ever before by the details of the present case.

Mr. Frederic was suffering from heart disease, the result of rheumatism. The importance of rest in such a case, especially as it would seem that emboli had been detached from the heart-valves and thrown into the circulation on several occasions, can scarcely be overestimated. Despite his physician's orders to the contrary, Mr. Frederic had been taken out carriage riding by his Christian healer. Later, when aroused to a sense of the utter inanity of Christian-healing methods, there had been a series of emotional storms produced by efforts to put an end to her persistent calls. All this was calculated to thoroughly depress a system already laboring under a serious failure of compensation and cardiac insufficiency, and undoubtedly Mr. Frederic's life was shortened, probably for years, by these indefensible methods of so-called Chistian science.

If human life is to be at the mercy of some fanatical female member of a household, who thinks Christian Science all powerful against disease, then it is time for the courts to mete out the measure of justice that is merited by such unwarranted assumption of responsibility for human life in serious disease. Common sense can have no weight with people so lost to all sense of reason. It is sincerely to be hoped that the punishment of some of their number, and the feeling of popular execration it will carry with it, will bring the members of this sect to their senses.

THE ETIOLOGY OF HEPATIC CIRRHOSIS.

In the *British Medical Journal* for October 22d, Professor Adami of Montreal adds some notes to the paper on "The Etiology of Hepatic Cirrhosis" which was read for him by Professor Osler at the Edinburgh meeting of the British Medical Association last summer and attracted a great deal of attention. Further study has not confirmed his original view: that there is a specific bacterial cause of hepatic cirrhosis in man, cognate and somewhat similar to the microbe that seemed to be the specific cause of the enzootic affection known as the Picton cattle disease. He had found in the livers of animals which had died from that disease a characteristic polymorphous bacillus, which in the earlier stages of its growth outside the body resembles a diplococcus, in the later stages becomes more bacillary, and when seen in the tissues is present as a diplococcus once more with a faint halo.

A form almost identical with this diplococcus-like body he found constantly present in some twenty human cirrhotic livers, generally within the liver cells. These bodies are extremely minute and can be well studied only with a $\frac{1}{18}$ or $\frac{1}{20}$ oil immersion though they may be recognized with some difficulty with a $\frac{1}{12}$ lens; the method of staining used being carbol-fuchsin and then bleaching in the bright sunlight for several days. It appears on further investigation that these bacillary forms, sometimes assuming diplococcus shapes, were none other than colon bacilli.

This disposes, for the moment at least, of the question of a specific bacterial cause for hepatic cirrhosis though it does not detract from the value of Professor Adami's work. The demonstration that the colon bacillus may assume a diplococcus form in the tissues is extremely interesting. It adds an important link to the chain of facts that bacteriologists have been so long forming and which tend to show

that under the name colon bacillus we have to do with a family type rather than an individual bacterium. It seems pregnant with suggestion, too, as to that crux of bacteriology: Are bacterial types constant, or are they capable of transformation into other types? and looks as though it might throw light upon that other shady question: Have developmental and involution forms of bacteria a specific virulence corresponding to their recognized mature forms?

Meantime, as Professor Adami suggests, it may be that under certain conditions of lowered resistance of liver cells due to alcohol or intestinal toxins the colon bacilli may have specific causative influence in the production of hepatic cirrhosis. Ramond in France has had some measure of success in producing hepatic cirrhosis in animals by alternating doses of bacterial toxins and alcohol. Working along similar lines Adami is now experimenting with alternate doses of alcohol and cultures of the colon bacillus. There is at the end of his paper a hint that he has had some success with this method, though, as he says, he is the more inclined to be cautious inasmuch as his Edinburgh paper, though its conclusions were announced as provisional, "raised some expectations as to the specific nature of ordinary cirrhosis which this present contribution to the study must overthrow." The whole of the investigation has been thoroughly scientific in character, and its results though for the moment misinterpreted, will prove, we feel sure, of great value. The apologetic turn to certain phrases seems scarcely called for seeing the promise the work contains. If all the misinterpretations of appearances in bacteriology were replete with as much prospective gain and present suggestion as this is one might well say, "*felix culpa.*"

ECHOES AND NEWS.

Medical School at Nashville Burned.—The building of the Medical Department of the University of Tennessee at Nashville was destroyed by fire November 11th. No definite information has yet been received regarding the loss or the future arragements.

Bubonic Plague in Vienna.—A cablegram from the U. S. Consul at Vienna, dated November 2d, announces that plague infection to emigrants coming to America is improbable. There have been in all six cases of plague in Vienna, all hospital attendants, with three deaths.

Another Medical Mayor in Cuba.—General Wood has appointed Dr. Vincent Gomez of Brooklyn, Mayor of the city of Gibara. Dr. Gomez was formerly Instructor in Otology at the New York Polyclinic, Assistant-surgeon at the New York Eye and Ear Infirmary, and a Captain and Assistant-surgeon in the 112th Regiment, National Guard, New York.

Health of the Troops at Manila. — The weekly report of the sickness among the American troops gives 1894 as the number of sick. There are among these 137 cases of typhoid and 637 cases of malarial fever; there are 7 wounded and otherwise injured men. The deaths were: Typhoid fever, 4; dysentery, 2; abscess, 1; meningitis, 1; pemphigus, 1; drowning, 1, and smallpox, 2.

Proposed National Cemetery at Santiago.—The War Department is considering the establishment of a national cemetery near the city of Santiago, Cuba, where the American soldiers who died fighting before that city can be interred. It is altogether probable that a site for a national burying-ground will be laid off soon after the occupation of the island by the American forces.

Mortality in the Recent War with Spain.—The official statistics, compiled under the direction of the Commissioner of Pensions, show that the total number of deaths on the American side due to the war was 2906 up to October 1st. As only 348 men were killed in battle or died from their wounds, the horrible death-rate from sickness becomes apparent, giving us a mortality from disease of 2558.

The New York Medical League.—A meeting of the New York Medical League was held at the Academy of Medicine, November 18th, at 8:30 P. M. The subject for consideration was "Illegal Practitioners of Medicine and Surgery." The subject was discussed by Mr. Robert C. Taylor, Dr. George Tucker Harrison, Dr. Wickes Washburn, Dr. Thomas H. Manley, Senator Pavey, Mr. W. A. Purrington, and others.

Leprosy in Brazil.—The U. S. Marine Hospital Service Sanitary Inspector at Rio Janeiro states that an estimate of three thousand lepers at present in Brazil cannot be considered an exaggeration. During the past year nineteen lepers have died there. Death was caused in eight cases by cachexia, in one case by the consequences of lepra anesthesica, in four by tuberculosis, and in six by intercurrent diseases.

Cure for Military Nostalgia. — Dr. Harrison, a colored physician of Wichita, Kans., has received from a member of one of the colored regiments in Cuba a letter stating that many of his comrades have forgotten home and former heart ties sufficiently to fall in love with and marry Cuban and half-breed Spanish girls. This letter has caused consternation among the colored women of Wichita who had husbands or sweethearts among these troops.

Postponement of the Third Pan-American Medical Congress.—In accordance with the request of the Government of Venezuela and of the Committee on Organization,

the third Pan-American Medical Congress, appointed to meet at Caracas, Venezuela, December, 1899, has been postponed to December, 1900. This action has been necessitated by the local rebellion, which has only recently been suppressed, and by a serious scourge of smallpox which has quite upset not only the minds of the physicians of that country, but also the entire people.

The Alvarenga Prize Essay.—The Alvarenga prize of the College of Physicians, Philadelphia, for 1898 has been awarded to Dr. S. A. Knopf of New York City for his essay, entitled "Modern Prophylaxis of Pulmonary Tuberculosis and Its Treatment in Special Institutions and at Home." The next award of the Alvarenga prize, amounting to about $180, will be made on July 14, 1899, provided an essay deemed by the Committee of Award worthy of the prize shall have been offered. The particulars can be obtained by addressing Thomas R. Neilson, Secretary, College of Physicians of Philadelphia.

Yellow Fever at Havana.—Yellow fever continues its deadly work among the Government officials who have been sent by our Government to attend to the preliminaries attendant upon the garrisoning of Cuba. Lieut.-Colonel Charles W. Williams, Chief Quartermaster at Havana, was smitten with the disease November 4th, and died November 11th. Orderly Stuart, who was acting as clerk in the Quartermaster's Office, and who was attacked by yellow fever a few days earlier than Colonel Williams, also died November 11th. Captain Colbert, aide to Colonel Williams, is now suffering from the same disease.

Beatty vs. Cullingworth Once More.—Miss Beatty, the English nurse, who was beaten in her appeal to a higher court in the matter of the oophorectomy that she claimed was done by Dr. Cullingworth without her authorization, having failed to secure any modification of the verdict on further appeal to the Home Secretary, now threatens to take the law into her own hands. It would seem, at least in this case, that oophorectomy does not always "minister to a mind diseased" in the way it is sometimes claimed to. From the utterance of such threats to the execution of them is but a step that has been too often taken in latter-day experience to allow them to pass unnoticed, and careful surveillance for a time would seem to be called for in this case.

Colonel Waring's Report on Havana.—The *Army and Navy Journal* of November 12th gives some of the sanitary calculations which the late Colonel Waring is said to have made for Havana. He found that city to be "the worst case of filth and carelessness in a city that he had ever known of in his long experience with these matters. In addition to a sewage system, of which not the slightest trace exists in Havana, and new pavements for the streets, the Colonel thought that 100,000 water-closets ought to be imported, and each house provided with one. Perhaps the whole cost would amount to nearly $20,000,000, but it is a sacrifice that must be made in the interests of the United States and of humanity. Not only will yellow fever disappear, but many other infectious diseases which are annihilating the Cuban people. The work is necessary not only at Havana, but at every port from which direct communication is had with this country."

Medical Advertising in India.—Some of our East India medical brethren who went to England to study medicine seem to have learned more than pure science in their contact with the profession in England, as the following advertisement will show. The *Indian Medical Record* copies it from a local paper as a sample of what Western medical culture has done for an East Indian: "Dr. S. M. Varis, M.B.C.M., Edin., Consulting Physician and Surgeon. Consultation all hours. Free 9 to 11 A. M. Notice: Dr. Sayad Mahomed Varis, Surgeon! Good news to thee, O heart, a Jesus-like man has come. Be it known to the seekers after bodily health, and to those in the clutches of deadly diseases that the Aristotle of the times and the Galen of the universe, Dr. S. M. Varis, M.B.C.M., after learning the art of medicine and practising it in Great Britain, has come to this town of Lucknow. He studied for six or seven years in modern Athens, *viz.*, Edinburgh, which is the capital of Scotland, and he obtained the diploma of a physician and surgeon, and there for three years he established himself in practice and performed Christ-like miracles. It is our good fortune that he has established himself here. It is hoped that whosoever will apply to him for treatment will fill his pockets with pearls of health (*sic*). He lives close to Kaisar Bag, near Share Darvoza, opposite the telegraph office, in house No. 1. Patients can consult him all day." It is not said that the patients who apply are filling the pockets of Sayad Mahomed Varis, M.B.C.M., Edin., with the pearls of wealth, but as the native Indian population are not less gullible than their cultured Western fellow men, it is to be supposed that he is reaping a precious harvest.

SPECIAL ARTICLE.

NEW BUILDING OF THE MEDICAL SOCIETY OF THE COUNTY OF KINGS, BROOKLYN.

LAYING OF THE CORNER-STONE.

A MOST important occasion for the medical profession of the Borough of Brooklyn was celebrated on the afternoon of the 10th inst., in the laying of the corner-stone of the proposed new home for the Medical Society of the County of Kings. A rain-storm prevailing, the literary exercises arranged for the occasion were held in the drill-room of the Twenty-third Regiment Armory on Bedford avenue. The plot of ground owned by the Society is on the easterly side of Bedford avenue, south of Atlantic avenue—a very central point—the cost of which was not far from $18,000.

The duty of laying the corner-stone devolved on the President, Dr. Joseph H. Hunt, who, with a few of his fellow officers, stood in the rain while making a brief address. The receiver of the corner-stone was filled with a metallic box containing numerous papers and photographs commemorative of the first half-century of the

Society. The chairman of the meeting was Dr. Frank E. West, by whom the Reverend Dr. R. S. Storrs was introduced, who offered the prayer invoking the Divine blessing upon the new enterprise. Dr. George McNaughton, ex-president of the Society, and generally accredited as the father of the building scheme, delivered a historical address showing the progress of the organization since its formation in 1822. He was followed by the Hon. Seth Low, LL.D., President of Columbia University, who dwelt upon the opportunities for good, implied in the library and educational powers of a great and faithful medical association. Mr. Low adverted to the fact that the strides of medicine, during recent years, are not within the scope of the knowledge of the general public. "Those persons who have not looked into medical affairs know but little about the progress made in that profession in the last twenty years. The student sees the wonderful progress that has been made, and I hazard nothing in saying that the progress of medicine and surgery is equal to, if not greater than, the progress made in other lines. For instance, the largest department in Columbia College today is that of bacteriology, which was unknown to educational bodies twenty years ago. As the years go by, physicians will learn to make mankind immune to more and more of the dangerous diseases now so much feared. The active practitioner of to-day must be a student as well as a practitioner, therefore, the medical profession needs such a building as your Society is about to erect. The idea of its being the mere home of a club, as has been stated in one of our higher courts, is preposterous. It is to be a place for study and learning. The science of medicine is a living thing, a growing thing. Consequently, those actively engaged in it must read all the new books appertaining to the subject, and so this new building and library are needed. A technical library is light giving. It is the headlight of a train of study and leads the way. A great library of medicine is a great storehouse of knowledge for the protectors of the community to gather strength and wisdom from to fight off disease. There is no profession more brave and more constant in its devotion than that of the doctor. Many Brooklyn doctors sacrificed their lives in the fight against cholera years ago. You have been told that your Society owes its birth to a similar fight against disease. Therefore, the community owes to you help which it should not be tardy in giving. Your library should be contributed toward as a great public work."

New Building, Medical Society of the County of Kings.

When completed the new structures will be one of the many beautiful buildings in the vicinity. It will be three stories in height, 95x85 feet in size. The architec-

ture will be colonial, of gray brick, with stone trimmings. On the first floor will be located an office, reception-parlor, ladies' room, cloak-room, and an auditorium with a seating capacity of four hundred. The reading room will be on the second floor, while the library, with room for 100,000 volumes will adjoin it. The construction will be fireproof, and by giving special protection to its library, it will at once begin its work of accretion by attracting to it the medico-literary treasures of its adjacent territory. "Growth in safety" will be its watchword from this time onward. The institution has a homelike and inviting prospect, and will be all the more used and appreciated by the local profession for the reason that its growth and assured success are to be attributed almost solely to the hard work and liberal spirit of its own membership. It is not too much to expect that contributions, gifts, and bequests will mark each future year of its history. The building committee reports that in about four months a considerable portion of the rising structure will be ready for occupancy.

CORRESPONDENCE.

IN REGARD TO YELLOW FEVER AT HATTIESBURG, MISS.; A CRITICISM OF REV. MR. PEEBLES.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—In your issue of the 29th ult., I note an article signed "I. L. Peebles, M.D.," from Hattiesburg, anent the yellow fever that has prevailed in our Southern country for the past sixty or eighty days.

In the first place, I will say that I have known the gentleman referred to some years, and while I considered him an exemplary man and an excellent preacher (Methodist), I never yet heard of his having studied medicine, to say nothing of his claim to be an "M.D." There is also another letter from the same prolific source making a scurrilous attack upon the Board of Health in the *New Orleans Advocate*.

I will pass over his unkind remarks, and in justice to the honorable and capable men who compose the board, quote a few plain facts for the consideration of your readers.

In the first instance, I will emphatically aver that we have yellow fever, and even nurses who have grown old in the work so recognize it. Secondly, our city got her fever directly from New Orleans, just as Hattiesburg, and our death-rate is about the same as in 1871, our last epidemic. Thirdly, failure of the Louisiana Board to acknowledge the presence of the fever, and its persistent denial of it is the prime reason why all this country was infected. Had the board dealt with us fairly we could easily have kept out the fever by excluding the people from infected points. But from the letter of your correspondent I judge that he has aligned himself with the "business interests," and counts human life as but dross in the presence of a 16-to-1 silver dollar. A true man or physician deems it almost a crime to conceal or deny an infectious disease, and thereby endanger the life of another.

As for panics or wild running from infected localities: Just 113 people left here for the North, and about 60 or 70 went out in the country.

The death-rate here will be six or seven per cent., but we prefer not to have it at all, as every death from a preventable disease is a tragedy.

When the fever was first found in the third ward of Natchez it was completely stamped out, and no new cases have appeared in that neighborhood. Had we then been able to trace the source of infection, as we did later, several valuable lives might have been saved. We found a regular nest in the north end of the first ward, near the city hospital, from which we traced the fever in the third ward. To date we have had 60 cases, located as follows: First ward, 52 cases (original point infected); second ward, 3 cases; third ward, 4 cases, and fourth ward, 1 case. These figures are significant. They prove that the disease is amenable to scientific treatment, and can be handled, and a general epidemic prevented. Our city is densely populated, and the oldest in the State. We have a population (city census of 1898) of 12,998, practically 13,000, which gives us less than 1 to every 200 people affected with fever, and very few immunes here owing to our freedom from fever since 1871. With exceptional weather for its development, with doctors in control of the Health Board, we had sixty cases of fever. Twenty-seven years ago, with the town full of immunes made during the epidemics preceding, and the town only two-thirds the present size, we had 1200 cases and 119 deaths. (Figures are official.)

We reported the fever, closed up churches, and urged people to stay at home. They complied, and we saved the town from an epidemic.

What a contrast 1871 presents to 1898, when (now) "experts" are so foolish as to report infectious diseases and thus injure the "business interests" of a town and community!

J. C. BALLARD, M.D.,
Chief Health Officer.

NATCHEZ, Miss., November 9, 1898.

[It is barely possible that the Rev. Mr. Peebles did not wittingly assume, in his letter to the MEDICAL NEWS, the title of Doctor of Medicine, but that the initials were appended to his name by an overzealous compositor without our discovering the error. If so, we tender him an apology. It gives us pleasure to publish the above letter from Dr. Ballard, as it clearly sets forth the character of the infection at Hattiesburg, and, at the same time, stamps with disapproval the public expression of a layman who has wandered far afield from his proper vocation.—ED.]

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

AN UNPOPULAR MEDICAL COLLEGE—A QUICK METHOD OF GRADUATION—HOT AIR IN JOINT DISEASES—HERNIA—DIPHTHERIA ANTITOXIN—AN ISOLATING WARD FOR THE GERMANTOWN HOSPITAL—PERSONAL NOTES—HEALTH-BOARD STATISTICS.

PHILADELPHIA, November 14, 1898.

FROM present indications it appears probable that the storm brewing in medical circles here may break forth at

any moment. There is an institution in Philadelphia whose methods do not always find favor with the majority of the profession, and an article by a contemporary last week has only served to add fuel to the fire, by threatening to make public its methods of stealing students from rival institutions. In a NEWS letter of some four months' ago a Baltimore medical college was accused of accepting and graduating students who had failed to graduate in Philadelphia earlier in the same year, making attendance at the Baltimore institution a matter of about ten weeks, although its announcements call for terms of six months, the last to be passed within its own walls. Through a typographical error "*The* Baltimore Medical College" (a reputable college) was substituted for "*a* Baltimore medical college" which called forth a righteous and indignant protest from the former and in consequence a statement from the NEWS as to the manner in which the error occurred. In order to be perfectly secure in his premises the writer allowed the matter to remain where it was until a catalogue of the guilty institution containing the names of the students in question could be obtained and now respectfully calls attention to this transaction again, placing the responsibility where it rightfully belongs, surely a more serious offence having been committed than that which our local institution has been accused of. Under the State law these men have the right to be examined for a license to practise medicine and yet they obtain this right unlawfully, and one barrier between the ignorant medical graduate and the community is broken down.

We should like to call the attention of our zealous Philadelphia contemporary and of the Association of American Medical Colleges to this flagrant breach of trust, the college claiming to be a member of the latter.

At the Philadelphia Academy of Surgery last week Dr. H. Augustus Wilson presented a paper on "Hot Air in Joint Diseases," the paper being practically a summary of the results achieved by its use for two years in various affections. Dr. Wilson found it useful in sprains, in softening bands in ankylosed joints, in aiding absorption in cases of hydrarthrosis, and while further use only can determine the question, it seems to be useful in tubercular-joint disease. In rheumatic affections and in chronic rheumatoid arthritis he believes it increases pain and has proved to be very disappointing. Among three cases of hernia reported by Dr. J. Chalmers Da Costa was one occurring in a man aged forty-one, who presented symptoms of strangulation in an enormous scrotal hernia, which extended down to the knees, pain, nausea, complete constipation and tenderness on pressure being present. The condition had existed from boyhood, gradually increasing until lately when the increase became very rapid. The mass, which was irreducible, was found on incision to include the cecum, the appendix, the ascending, and a portion of the transverse, colon, a large part of the ileum, and a portion of the omentum. Restoration was made to the abdominal cavity after removal of the omentum and Bassini's operation carried out as far as possible. Recovery followed, a slight relapse being relieved by a truss.

Another interesting paper of this week was a "Report of Five Cases of Diphtheria" read by Dr. John M. Swan before the Philadelphia County Medical Society. It was interesting because of the absence of any false membrane in the throats of the patients, and because of the good results achieved by the use of antitoxin. The cases occurred in one family, the mother and the several children being affected; typical symptoms were present and though the false membrane was absent, inoculations from the affected throats revealed the presence of the Klebs-Loeffler bacillus. Inoculations of from 250 to 500 units of antitoxin were given, causing a return within twenty-four hours to the normal temperature with no unfavorable results. A solution of nitrate of silver, one dram to the ounce, was then applied locally which rapidly caused disappearance of the bacilli, a method advocated by Dr. Aldred Hand, Jr., in a paper read some time ago; in no case was it necessary to make more than two applications.

The Germantown Hospital is to have a new isolating ward through the generosity of Stephen Green as a memorial to a member of his family. It is to be built of brick and tile, consists of one story and basement and will contain three rooms for patients, one for nurses, a diet-kitchen, toilet-room, and a large reception-hall.

Dr. Joseph Neff, Director of Jefferson Hospital and William Potter, President of the Board of Trustees, are candidates for the office of President of the Union League Club.

Dr. William P. Read, Assistant Demonstrator of Pathology at Jefferson, has resigned to enter the United States service, and Dr. Charles Frazier has been appointed Visiting Surgeon on the staff of the Philadelphia Hospital in place of Dr. J. William White, resigned.

The total number of deaths occurring in Philadelphia as reported at the Health Office for the week ending November 12th was 397, of which 102 occurred in children under five years of age. The number of new cases of contagious diseases was 254 reported as follows: Diphtheria, 112 cases with 24 deaths; scarlet fever, 27 cases with 1 death; typhoid fever, 115 cases with 5 deaths.

MEDICAL MATTERS IN CHICAGO.

[From a Special Correspondent.]

PROTEOLYTIC VALUE OF MALT EXTRACTS—CONGENITAL APHASIA OF FAMILY TYPE—SCROFULOUS OPHTHALMIA—MULE'S OPERATION—CONGENITAL DISTICHIASIS—SARCOMA OF THE LID—EXTENSIVE FISTULA IN ANO—FLOATING KIDNEY, TUBAL PREGNANCY AND GALL-STONES IN ONE PATIENT—TREATMENT OF ULCER OF THE STOMACH.

CHICAGO, November 14, 1898.

AT a meeting of the Chicago Medical Society, held October 26th, Dr. Charles H. Miller presented the subject of "The Proteolytic Value of Malt Extracts." After briefly reviewing standard authorities and giving the results of experimentation, he drew the following deductions: (1) Properly prepared, light-colored, semi-liquid extracts of malt, possessing strong amylolytic power, have also positive proteolytic value, though decidedly

less marked than the better known ferments, pepsin and trypsin. (2) The reaction of the media bears an important relation to the results obtained. This influence is believed to be as follows in sequence of greater activity: 2 per cent. lactic acid, .5 per cent. sodium carbonate, .6 per cent. sodium chlorid (neutral), and .2 per cent. hydrochloric acid. (3) Judging from experiments, and in the proportions employed, the proteolytic power of malt extracts is about 5 per cent. of that of pepsin or pancreatin. (4) The dry diastase preparations were not found to possess proteolytic power. The best results were obtained by a freshly prepared extract of malt just before use. Good malt extract is a valuable food, concentrated and immediately assimilable. It is capable of immediately converting enormous quantities of non-diffusible carbohydrate food-starches into soluble dextrin, or maltose forms, ready for the use of the body. It is, in the amounts commonly administered, capable of largely converting the proteids of an ordinary meal into diffusible peptones. Malt extract is a first-class remedy, and the simplest rules of combination render it doubly satisfactory to use. Regarding administration, it should be given just before or with the meal, and can always be advantageously combined with lactic acid to pleasant tartness, other medicines not interfering.

Dr. Harold N. Moyer read a paper on "Dumbness or Congenital Aphasia of a Family Type without Deafness or Obvious Mental Defect." He described the case of a boy, nine years of age, otherwise bright and healthy, who understood all that was said to him, but who had spoken only one word, "Mama," until his eighth year. It could not be learned at what time of life the boy acquired this word. Inquiry into the family history showed that the father was totally aphasic until six years of age, and that two brothers and one sister were similarly affected, none of the latter speaking until four years of age. A paternal uncle and cousins were affected with lallation all their lives. The two brothers of the patient grew up and occupied positions in life above that of the parents. The father and two grown sons had an excellent command of language, free from all defects of articulation. The essayist referred to several classical examples of sudden speech in those who had been previously dumb; the son of Crœsus, and the Samian athlete. The extreme rarity of the affection was shown, an examination of 4485 mutes showing this condition in only 7, and many of these were more defective as to general mentality than those which he described. The explanation of Bastian was referred to in which he claims that language is to a certain extent instinctive, and in these cases there is some barrier to the emission of speech; under the influence of strong emotion this is swept aside and speech follows. One of the patients coming under observation did not speak until the fourth year, then it suddenly began, at first imperfectly, but in three months he spoke as well as the average child of his age.

Dr. Henry Gradle discussed to subject of "Phlyctenular or Scrofulous Ophthalmia." After referring to the frequency of this affection and its preponderance in girls, he described it as a disease of childhood, seen rarely after puberty, and then only in patients who had been subject to it since early childhood. The characteristic lesion is the phlyctenule, not a vesicle, but a translucent papule (of leucocytes), which in typical cases disappears by absorption in five to eight days. The serious aspect of the disease is the liability to relapses, often in multiple form, the frequent delays in the disappearance of the phlyctenules, and particularly their transformation into larger papules, into corneal infiltrates, which often ulcerate, or into diffuse patches of superficial keratitis with new formation of blood-vessels. All these manifestations are but metamorphoses or sequelæ of phlyctenules. Coming to the treatment he endorses the hygienic measures generally adopted in tuberculosis, namely, an outdoor life, proper feeding, baths, and, if indicated, cod-liver oil. These measures seem to protect fairly well against relapses, but their influence requires too long a time to be of immediate benefit as far as the attack at the time is concerned. In the local treatment he recognizes the influence of calomel dusted into the eye, especially when used two to three times daily. Atropin is of decided influence when there is pronounced ciliary irritability, and especially when the pupil is narrowed or resists the dilating influence of the drug. But whenever the process is not accompanied by much irritation, or when the pupil yields at once, atropin seems to exert no influence of any kind.

At the October meeting of the Chicago Ophthalmological and Otological Society, Dr. W. F. Coleman exhibited a patient upon whom he had performed Mule's operation some two weeks before, and who had been wearing the artificial eye for two days. The operation was followed by very little reaction, which he ascribed to cauterizing the inner wall of the sclera with 95 per cent. carbolic acid and the free use of hot water. Dr. F. C. Hotz said that practically the only advantage from Mule's operation is that the sulcus in the upper lid under the brow is less deep than in the ordinary enucleation. Dr. Casey A. Wood has performed Mule's operation twice, and said there is very little in the procedure to recommend it over a proper enucleation or evisceration.

Dr. Wood presented two cases, father and daughter, of congenital distichiasis. The hairs were extracted by the use of nitric acid inserted into the base of the lesion by means of a fine tooth-pick. Dr. Hotz reported a case of unusual tolerance to mydriatics. Dr. Wood finds that there is a dermal idiosyncrasy in many patients after the use of atropin.

Dr. C. P. Pinckard detailed a case in which a single drop of atropin produced marked constitutional symptoms, but not any skin symptoms. He also detailed a case of sarcoma of the lid, and dwelt upon the differential diagnosis between sarcoma and chalazion, saying it is difficult before a section of the tumor is made and examined.

At the November 2d meeting of the Chicago Medical Society, Dr. J. R. Pennington reported a case of extensive fistula in ano in which there was only one external opening. In operating in these cases it is important to recognize their conformation, particularly when there is one or more external openings on each side of the anus;

otherwise the operator is apt to proceed as though he has two separate and distinct fistulæ to deal with, and by following the advice given in some text-books, slit up first one sinus, then the other, and, when too late to remedy the mistake, recognize that he has divided the sphincter in two or more places, following which the patient has incontinence of feces and a remaining fistula. In operating on this patient he did not divide the sphincter, and consequently there was no incontinence of feces. Patient made a good recovery. He also detailed a case of incontinence of feces following an operation for simple fistula.

Dr. Alexander Hugh Ferguson reported the case of a woman, thirty years of age, upon whom he had operated for floating kidney, tubal pregnancy, and gall-stones. The patient was treated surgically on two different occasions for these conditions. He exhibited both the patient and the specimens. Dr. Arthur D. Bevan narrated a case in which a diagnosis of gall-stones, floating kidney, and appendicitis was made; an operation was performed, and the diagnosis verified.

At a meeting of the Chicago Medical Society, held November 9th, Dr. James B. Herrick contributed a paper on "The Treatment of Ulcer of the Stomach by Rest in Bed and Rectal Feeding." He said that physicians often oppose the treatment or give it but a half-hearted approval. By rest in bed and rectal feeding the natural tendency of the ulcer toward recovery is encouraged by the removal of all mechanical and chemical irritation. Several objections have been made to rectal feeding. The objection that the rectum will not submit to repeated enemata, but will give out, is answered by the fact that when suitable enemata are properly administered, the rectum will tolerate this method of treatment for many days or many weeks. In carrying out the treatment it is important to secure the consent of the patient by a clear explanation of the reasons for the treatment, the probable length of time required, etc. The bowels should be emptied by a preliminary laxative and cleansing enema. Absolute rest in bed should be required for from two to six weeks. Nothing should be given by the mouth, not even water, for from three days to three weeks. Nourishing enemata should be given at regular intervals, say of four hours, by means of a soft rubber tube inserted high into the rectum. Enemata can be given once in twenty-four hours, a period of eight hours rest, as, for example, from midnight to eight in the morning, being desirable. The quantity and kind of food, as well as the hours, can be varied in individual cases. A simple enema of water is to be given every morning. This may be retained, in which case it quenches thirst; it may be rejected, acting as a cleansing enema. As pain, tenderness, and vomiting cease, the enemata can be gradually withdrawn, and peptonized milk or other light diet carefully substituted by the mouth. The patient should be allowed to get out of bed only after rectal alimentation has been entirely stopped. It is best to keep the patient in bed for at least four weeks. Iron may be necessary for the chlorosis so commonly present. This should only be given when a light diet is tolerated. The results are almost an immediate lessening of pain, vomiting, and nausea. There may be emaciation and weakness, which will disappear quickly when stomach feeding is resumed. A cure is the result in the larger number of recent cases. This rational method of treatment, allowing Nature to work the cure, deserves the warmer indorsement of text-books and physicians, particularly as medicinal treatment is so unsatisfactory. It should be employed in every case, either mild or severe.

OUR LONDON LETTER.

[From Our Special Correspondent.]

DEATH-PENALTY FOR PRODUCING ABORTION — A CLEVER BLACKMAILING SCHEME — SLAUGHTER-HOUSE INSPECTION—THE LONDON POST-GRADUATE SCHOOL—A SPECIAL COMMISSION TO INVESTIGATE THE PLAGUE—LONDON MEDICAL SOCIETIES.

LONDON, November 10, 1898.

THEY have a way of enforcing laws to the very letter in England which is somewhat startling to the Western mind. In the recently decided Whitmarsh case which has been attracting the attention of the profession on both sides of the Atlantic, the accused was actually found guilty of wilful murder and condemned to death, for operating to produce an abortion, which operation ultimately resulted in the patient's death. The sentence was chiefly due to the judge's charge which instructed the jury that if they believed the defendant knew the operation to be felonious and was aware that it was attended with danger to the woman's life, they must find him guilty of murder. This, of course, rests upon the old legal maxim that all the consequences of a wilful felonious act must be construed as wilful, and if loss of life result, then the offender is guilty of "constructive murder."

It is beginning to be doubted even in legal circles whether this reverend maxim is really good law and sound justice, but the knowledge of the mere possibility of its application in our American courts would have an electrical, purifying effect upon the atmosphere of abortionist circles. It is good law in cases of this class, if anywhere on the foot-stool.

Altogether the abortionist has been having an uneasy time of it here of late, for the "other side of the house" has not yet recovered from the excitement into which it was thrown a few weeks ago by the Mitchell blackmailing letters, the details of which are familiar through the popular press. The plan was fiendishly ingenious, the only wonder being that it should have been reserved for a slow and stolid Briton to evolve the brilliant idea of securing a list of the purchasers of a certain "Female Regulator" advertised in the religious journals, and serving them all with an "official" letter, announcing that legal proceedings had been commenced against them for the "fearful crime" of attempted abortion, which could only be stopped by the prompt remittance of $10 "to cover costs" and a "solemn oath before God" never to repeat the offense.

It ought to make our native sharks blush for their stupidity. The best thing about the rascally affair is that its originator found it necessary to flee so soon that he could not have reaped much profit from his scheme, though its admirable working is shown by the more than 600 letters with enclosure—and oath—intercepted by the po-

lice, while the purchasers of the "regulator" have had a sharp but salutary lesson.

The London County Council is struggling with the question of slaughter-house inspection. The hybrid system of a public abattoir, plus numerous private slaughter-houses, prevailing in many of our American cities, is in force here. This has proved, as everywhere else, unsatisfactory, and a proposal to abolish private slaughter-houses is before the Council, meeting of course with warm resistance from the butchers. The supporters of abolition are turning an interested eye across the Atlantic to gather the results of the mixed system in our large cities. If they are guided by what they see there the reform will not be long delayed.

It will be welcome news to our students that the new London Post-Graduate School is making rapid progress with the fitting up of its new building in Gower street and hopes to be in operation by January. In addition to its own clinics and lectures it will have a resident secretary who will keep a list of the dates, hours, and subjects of the clinics and clinical lectures at all the principal hospitals in London, so that it hopes to form an information bureau of things medical for the benefit of physicians visiting the city.

Galvanized at last into activity by the continued smouldering of the plague in Bombay and neighboring towns, the English Government has appointed a special commission to visit India and thoroughly investigate the whole question of the disease, with special reference to preventive inoculation. Tardy as the action is an admirable choice of personnel has been made in placing at the head of the commission Professor Fraser of Edinburgh, so well known for his brilliant work upon the toxins of snake venom. His associates, Dr. Rieffer of the Egyptian Sanitary Service, and Dr. Wright of the Army Medical School at Netley, are worthy of their chief. "It's an ill wind" etc., for it is creditably reported that the tragedy of science at Vienna was the last straw which tipped the delicately balanced and hesitating official scales in the direction of action.

The Medical Societies of London have just fairly begun their season's work. It is a great pity for the sake of both visitors and residents that there is not more concentration and unification among them both as to places of meeting and ground covered. Disregarding the local and suburban organizations, the great central societies of London have their places of meeting scattered all over an area some three miles square in the heart of the city. The overlapping in ground covered is even more unfortunate for there are no less than five general medical societies corresponding to the Section on Medicine of our New York Academy, leaving out of count the numerous specialist organizations.

At the Pathological Society Mr. George Shattock, Pathologist to the Museum of the Royal College of Surgeons, presented a most interesting acromegalic skull, discovered by him among the normal crania in the collection of the college. The skull had been purchased with a number of others in Rome but nothing further was known of its history. It was obviously acromegalic, presenting the overgrown jaw, the thickened calvarium, and the large pituitary fossa. The cranial bones were not only thickened but greatly increased in density so that the skull was enormously heavy, while in many cases of acromegaly the enlarged bones are so porous as to even weigh less than the normal. Dr. Shattock also alluded to the skull and skeleton of John Hunter's Irish giant in the museum, which both he and Dr. Cunningham regard as clearly acromegalic. One after another the giants are falling into the acromegalic line, until now one can almost double Sternberg's estimate of five years ago, that forty per cent. of all giants are acromegalic. It would almost seem as if the chief difference between giantism and acromegaly lay in the time of commencement of the disease; if before puberty, giantism results; if after, acromegaly. The reference to the Irish giant recalls a curious little bit of the history of the acquisition, which illustrates the dogged persistence of the great surgeon. He was acquainted with Byrne for a number of years before his death and had several times offered him a large sum for the possession of his body after death. The poor giant, not unnaturally, took such a dislike to the idea that on his death-bed he paid a fisherman heavily to promise to carry his body three miles out to sea and weight it heavily and launch it overboard. But Hunter was not to be baffled; he "saw" the fisherman, told him to carry out his instructions to the letter, with the trifling addition of permitting him to accompany him in another boat and attach a line to the body before it was cast overboard.

TRANSACTIONS OF FOREIGN SOCIETIES.

France.

ANEURISMS CURED BY SUBCUTANEOUS INJECTION OF SOLUTIONS OF GELATIN—SIGNS OF THE BEGINNING OF PULMONARY TUBERCULOSIS—RESECTION OF LARGE INTESTINES—ACTINOMYCOSIS OF THE UMBILICUS—RESECTION OF NERVES FOR TRIGEMINAL NEURALGIA—REMOVAL OF FOREIGN BODIES FROM THE FEMALE BLADDER—DIAGNOSIS OF INTESTINAL LESIONS AFTER CONTUSIONS—AMPUTATION OF THE WHOLE UPPER EXTREMITY FOR CANCER—TUBERCULAR PERFORATION OF THE HARD PALATE—SECOND CONGRESS OF GYNECOLOGY, OBSTETRICS, AND PEDIATRICS.

AT the Academy of Medicine, October 11th, LANCEREAUX detailed "Three Cases of Aneurism Which Had Been Cured by the Subcutaneous Injection of a Two-per-cent. Solution of Gelatin in Normal Salt Solution." Two of these patients had aneurisms of the aorta, and the other an aneurism of the right subclavian. From 6 to 8 ounces of the solution was injected and the dose was repeated as often as was necessary to accomplish the coagulation of blood in the sac. These injections, which have an incontestable value in aneurisms of a sacculated form, are of no use in fusiform aneurisms, for there cannot be a sufficient slowing of the blood-current in such a dilatation to permit of a cure by clotting.

HUCHARD succeeded in curing an aortic aneurism by fifteen injections of the gelatinous fluid. He has also stopped hemoptysis in phthisis by the same means. He looks upon the treatment as a most painful one and not

altogether free from danger, especially if there is a branch artery given off in the immediate neighborhood of the aneurism.

Two fatal instances of the employment of gelatin occurred in the practice of Boinet and Barth. In one patient the injections resulted in the narrowing of the pulmonary artery, another was followed in a short time by the development of a bilateral pulmonary tuberculosis; while the other patient went into collapse and died almost immediately after receiving an injection. These instances confirm the power of gelatin to increase the coagulability of blood, but they also show that great caution should be observed in its administration. In no case ought the solution to exceed one per cent. and the injections should be made at sufficiently long intervals to enable the physician to judge of the effect of one before another is given. The patient should remain in bed throughout the period of treatment.

FOURNIER mentioned a possible cause of error in the diagnosis of aortic aneurisms. He once made the diagnosis of this condition in a syphilitic subject, but three weeks after antisyphilitic treatment had been begun all sign of the aneurism had disappeared. The condition was not one of aneurism but, as he has since had opportunity to demonstrate several times at autopsy, there was a gummatous infiltration in front of the aorta which simulated an aneurism.

FERNET said that there are certain signs of commencing pulmonary tuberculosis which are sufficiently reliable to deserve mention with those which have become classical. They are those due to an enlargement of the tracheobronchial glands, and to the congestion of the base of the affected lung. The enlargement of the glands is well brought out by percussion upon a pleximeter, combined with auscultation. These glandular conditions follow the changes at the apex of the lung so promptly that they are of great value in the diagnosis of early phthisis.

At the session of October 18th, BOECKEL spoke of "Three Resections of the Large Intestine" which he had done. One was for carcinoma of the descending colon. The ends were sutured and the patient recovered. A second was for tuberculosis of the cecum. Here anastomosis was made between the small intestine and the ascending colon after removal of the cecum. This patient also recovered. The third was for carcinoma of the cecum and the same operation was done as for the tuberculosis of the cecum. The patient died, however, on the sixth day. The autopsy showed that the operation, even if successful, would have been of little benefit, as there were great secondary nodules in the liver, peritoneum, and retroperitoneal glands.

REBOUL removed a spongy tumor from the umbilical region of a man, aged twenty-one years, who had been working in the harvest-field. The wound healed primarily. Section of the tumor showed it to contain the grains of actinomycosis, and in several places there were areas of suppuration, in the center of which were fragments of the beard of wheat, surrounded by the characteristic grains of the disease. The diagnosis was confirmed by cultures made on potato.

At the Surgical Society, October 5th, GUINARD said that he had resected the Gasserian ganglion once, for facial neuralgia, following the method of operation recommended by Poirier, and obtained complete relief from the attacks of neuralgia. He had twice before operated on the same patient, once resecting the alveolar margin with only transient relief; and followed this opertion by that of resection of the superior maxillary nerve and Meckel's ganglion. There was no relief whatever obtained by the latter operation. In seven other patients he had resected the superior maxillary nerve and Meckel's ganglion by Segond's method.

The results obtained upon six of these patients were perfect, and there was no return of the neuralgic attacks. The time since operation varied from six months to three years.

POIRIER admitted that the removal of the Gasserian ganglion is feasible, but added that it is a dangerous procedure. He performed the operation upon a man aged sixty-three with a fatal result. The operation itself was without complication, except an annoying flow of cerebrospinal fluid from a small tear in the dura mater, and there was little hemorrhage. The ganglion was removed without difficulty and the dressing applied. Scarcely had this been accomplished when the patient died.

POTHERAT insisted upon the necessity of having the hook directed properly in the attempt to draw out the Meckel ganglion. This direction is from before backward. Otherwise one is likely to miss the nerve and to penetrate the orbit. It is of advantage first to expose the infra-orbital nerve so that one may be sure by pulling upon the larger trunk that it is engaged in the hook. Therapeutically there is the same criticism to be made of this operation as of the resection of the Gasserian ganglion or any other neurectomy; it is not sure to relieve the patient of his painful attacks.

SCHWARTZ had an unfortunate result in attempting to remove the Gasserian ganglion. The accidental division of an artery delayed the operation one-half hour, and finally the ganglion was removed piecemeal. The operation was followed by a corneal ulcer and total blindness in that eye. The wound suppurated, and before the patient had entirely recovered the attacks of neuralgia came back as bad as ever.

PICQUE described the removal suprapubically under chloroform of a horsehair from the bladder of a girl aged fourteen. The patient had introduced the hair into the bladder, through the urethra, and several attempts were made to remove it but without success, even though the urethra was dilated for this purpose. The results in this and similar cases show that it is useless to attempt the removal of such articles through the urethra, and that it is wisest to remove them through an incision into the bladder. If the vagina is large enough to permit it, it is better to make the opening into the bladder through it rather than suprapubically.

At the session of October 12th CHAUVEL spoke of the "Diagnosis and Treatment of Lesions of the Intestine after Contusion of the Abdomen." A man was kicked in the abdomen by a horse and showed absolutely no

signs of intestinal injury. In particular it was noted that there was no muscular rigidity. Under these circumstances it was deemed unnecessary to perform laparotomy. Some hours later, however, the belly began to grow tense and tympanitic, and it was opened. There was a beginning peritonitis, which had its origin in three wounds of one loop of small intestine. These wounds were sutured and the patient recovered.

RECLUS had a similar experience with a man who had been kicked by a horse. There was no muscular rigidity and he counseled delay. The following day peritonitis set in and the autopsy showed a triple lesion of the intestine. In another patient whose abdomen had suffered contusion there was a distinct prehepatic resonance, and laparotomy was performed. Absolutely nothing was found. Reclus was formerly an advocate of the expectant treatment in such cases, but now holds that an immediate laparotomy should be performed after a severe blow upon the abdomen, such as the full kick of a horse, even though there are no symptoms whatever pointing to intestinal lesions.

At the Academy of Sciences, October 10th, BERGER called attention to the results which follow amputation of the upper extremity, including the scapula and most of the clavicle, for malignant disease of the upper end of the humerus. This method of treatment was recommended by him in 1887. He has performed it twice with success and the patients have been free from recurrence fifteen years and eighteen months respectively. If the subclavian artery and vein are tied the operation is easily performed without much hemorrhage. Freedom from recurrence has been obtained in about thirty-three per cent. of all cases which have been reported. This is a very satisfactory result, especially when it is compared with the result obtained by amputation at the shoulder-joint for malignant disease of the upper end of the humerus.

At the Medical Society of the Hospitals, October 21st, DUCASTEL gave an account of a patient who came to consult him for a perforation of the hard palate, which he at first supposed to be syphilitic. A more careful examination showed near the second right-molar tooth a little ulceration covered by a soft coat and surrounded by miliary granulations. The examination of the lungs further showed that the man was suffering from tuberculosis. There was no history of syphilis and no other lesions or scars which might be considered to be due to that disease. The diagnosis of tuberculosis was absolutely confirmed at the autopsy which was made some weeks later. Besides the advanced lesions in both lungs there was a large ulceration in the hard palate, in the margins of which were numerous tubercles with the bacilli of Koch. This situation for tuberculosis is rare, but is of importance on account of its great resemblance to syphilis in this situation.

At the Biological Society, October 22d, AUCHE and CHAVANNAZ reported that they had made a study of five cases of peritonitis following operation, and had found the white staphylococcus in the peritoneal fluid at the end of each operation. It was introduced by the operative act, since the fluid taken at the beginning of the operation was in every case sterile. In three of the cases drains were left in position and cultures of cocci were obtained from them in three to five hours after the operation. The number of cocci was by no means small. Injections of these cultures into the abdomens of rabbits did not produce any serious symptoms. All of the patients examined recovered. The conclusions drawn from these investigations were that the peritoneal cavity is infected at laparotomy far oftener than the results would indicate, and this in spite of painstaking efforts on the part of the surgeon to prevent it. The germs thus introduced are, however, not of a great degree of virulence as shown by the recovery of all the patients, as well as by the lack of symptoms in the rabbits that were inoculated by them.

At the Second Congress of Gynecology, Obstetrics, and Pediatrics, held at Marseilles, October 8th to 15th, SEGOND thus summarized the "Treatment of Extra-uterine Pregnancy":

For uncomplicated cases of less than five-months' duration, ablation by laparotomy is the operation of choice. For cases under five months complicated by free hemorrhage into the peritoneal cavity immediate laparotomy is indicated. Laparotomy is the best operation for hematosalpinx, the blood being so situated that fetus and blood-clot can be removed in one mass; also in cases of hematocele caused by repeated hemorrhages. It was formerly not considered necessary to operate upon encysted hematocele as a complicating factor in extra-uterine pregnancy. Opinion is still divided as to the course to pursue under such circumstances, but Segond much prefers an operation through the vaginal vault and an evacuation of the contents of the cyst, the operator proceeding with caution and gentleness.

If the pregnancy has passed the fifth month and there are no complications laparotomy should be performed and the cyst brought to the surface but not excised, as Nature will expel the placenta and the danger by following this method of treatment is less. If the pregnancy is complicated by hemorrhage the same treatment should be followed unless the bleeding is of such character as to render the ablation of the sac necessary. If the fetus has been dead some time operation should be performed at once, consisting of laparotomy with extraction of the fetus, the sac being left open for the expulsion of the placenta. If the fetus has recently died it is better to wait for a few days for the blood-vessels to shrink before proceeding to operation.

POZZI said that it was not necessary to advocate this or that operation. The surgeon should guide himself according to the conditions before him, and while he might choose to perform laparotomy in certain cases, a colpotomy would be better in others. The question to be decided is rather a topographical one than a hemostatic one. There is one incision which is little known and that is the lateral one, similar to that employed to expose the internal iliac artery. By this means one can reach a sac which is situated far to one side without opening the peritoneal cavity.

SAINT-BLAISE discussed the "Auto-intoxication of

Pregnancy." In general the body is constantly exposed to the effects of toxic materials in the food, as well as those which are formed in the body itself, notably the bile. There are two sorts of organs which protect the body from these toxic materials. First, the organs of transformation or arrest—the intestine, spleen, lymphatic glands, suprarenal capsules, the thyroid gland, and liver. Second, the organs of elimination—the intestine, skin, lungs, and kidneys. It is easy to understand that intoxication will take place when the production of toxic materials is increased, or the defensive power of the body is diminished. Both of these conditions are found in pregnancy, when the blood contains fewer red globules, and the respiratory power is lessened, as well as that of the heart; and finally the intestine acts slowly, and there are often constipation, dyspepsia, and abnormal fermentations. In the albuminuria which is often found in pregnancy the kidneys play only a secondary rôle. The real trouble is hepatic insufficiency. Other results of hepatic poisoning are digestive troubles, such as vomiting, dyspepsia and constipation, insomnia, alteration of the character, ptyalism, edema, pruritus, bronzed skin, pigmented spots, etc. More serious results are jaundice, puerperal mania, albuminuria, and eclampsia. All authors are not agreed that this last symptom is due to insufficient hepatic action, but this is the most reasonable view. If the action of the liver is sufficient, the patient is in no danger of severe attacks of eclampsia. The rational treatment of auto-intoxication rests upon the early diagnosis of the hepatic insufficiency.

MERY read a paper upon "Mixed Diphtheritic Infection." The mixed infection which has been most studied is that in which the streptococcus is present. The cases in which the staphylococcus is present are less serious and progress less rapidly than do the cases of streptodiphtheria. In the former the membranes are pulpy. When the coli bacillus is present the membranes are very thick and have a disagreeable odor. If the proteus is present the diphtheria is apt to be of a gangrenous type. Unfortunately, however, these differences are not sufficiently well marked to enable one to make a diagnosis from the clinical appearances. In all of these mixed infections, antidiphtheritic serum has the same effect upon diphtheritic processes as it does in uncomplicated cases. It needs, however, to be given in larger doses. Upon the growth of the associated microbes it has no effect, and it should not, therefore, be given when the condition of the throat is due to their action alone. Some good results have been reported from the use of antistreptococcic serum, and local treatment should be carried out whenever it can be done without injury.

For Dropsy of Cardiac Origin the following diuretic pill is recommended:

Pulv. scillæ Pulv. digitalis Caffeinæ citratis	aa . . .	gr. xxx
Hydrargyri chlor. mit.	. .	gr. v.

M. Ft. pil. No. XXX. Sig. One pill three times a day before eating.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.—SECTION ON SURGERY.

Stated Meeting, Held November 3, 1898.

THE President, DR. EDWARD G. JANEWAY, in the Chair.

The chairman announced that the discussion of the evening was to be on

THE OPERATIVE TREATMENT OF HYPERTROPHY OF THE PROSTATE.

DR. EUGENE FULLER read a paper, entitled

THE RADICAL TREATMENT OF HYPERTROPHY OF THE PROSTATE.

He said that under the term hypertrophy of the prostate he includes only the cases of senile enlargement of the prostate which are so commonly seen. Just what the nature of this enlargement is is not always clear. It is partly glandular, partly muscular, but by no means in anything like unvarying proportions. At times, too, it is fibrous in character. It is a mistake to think that these enlargements bear much resemblance to each other or conform to a common type despite their being classed under the same head of prostatic hypertrophy. It is not always the middle lobe that by its enlargement causes prostatic symptoms. The lateral lobes may produce the same symptoms when hypertrophied. The obstruction to the passage of urine is not always at the same place. At times it is in the prostatic urethra, but at times it is due to intravesical projections that block up the urethrovesical opening. Dr. Fuller has seen a projecting mass the shape of the end of a banana, and in another case two finger-tip-like projections that blocked the urethral opening.

The size of the prostates that cause symptoms are also most variable. They may on removal weigh a pound, though one-half pound is large, and the usual weight is two to three ounces. There are a number of conditions that may simulate prostatic hypertrophy, notably affections of the seminal vesicles and atonic conditions of the bladder, so that cures under conservative medical treatment are readily open to the suspicion of falsity of diagnosis. Atony of the bladder that develops as a consequence of the overstretching of the viscus because of the insuperable obstruction occasioned by the hypertrophied prostate, used to be considered an extremely important factor in the case. Some even thought that it was the primary factor, and due to the advance of general sclerosis, and that its presence made a bad prognosis inevitable, but we now know better, and patients in whom complete atony of the bladder has existed get entirely well after the obstruction is removed.

In operating the only thing really worth considering is the radical removal of the obstructing mass. The objections to this so far have been that the old men in whom prostatic hypertrophy occurs stand an anesthetic badly, and also the loss of blood incident to a serious cutting operation. Both of these objections are met, Dr. Fuller

thinks, in operating by his method. The anesthetic is never given for more than fifteen minutes and serious bleeding is avoided by the use of serrated-edge scissors in cutting through the bladder for the enucleation of the prostate. He then described the operation he has employed since 1895 in twenty-seven cases. It is the suprapubic operation with a second slit in the bladder made with the serrated scissors to enable the operator to get at the prostate, a counter opening, a puncture being made through the perineum for drainage after the operation. Dr. Fuller does not tampon the bladder afterward because of the serious pain caused by the removal of the tampon, besides the danger of infection.

To avoid the danger of hypostatic pneumonia the patient is turned from side to side after a day or two, his shoulders are elevated as soon as practicable, and after a few days he is allowed to sit up in a chair.

The one contraindication to the operation is advanced arteriosclerosis with pipe-stem arteries. It is surprising, however, what hopeless-looking subjects survive the operation and are improved by it. Recently a colleague remarked, "Why operate on a corpse?" yet in six weeks the patient of whom the remark was made was up and around, feeling well.

Experience shows that this operation of suprapubic enucleation of the prostate is ever so much more satisfactory in its results than the old methods of cutting a trough through the prostate. Not only is there greater assurance of relief being afforded, but that relief will be more lasting. There is less danger of recurrence of urinary retention and the operation itself is less bloody.

As to the radical operation on the prostate by an incision through the perineum, as practised by Nichols and Alexander, it has the disadvantage of being slower and hence requiring the administration of much more of the anesthetic, always a serious consideration in these old patients. Then, too, owing to the nature of the tissues in the perineum it is much more bloody and time is required in dissection and in the securing of blood-vessels.

Dr. Fuller has operated on 27 patients by his method. Of these 5 were affected with arteriosclerosis so badly that the operation was contraindicated, but it was a last resource for the patient. Of the 5 two died. There were two deaths in the other 22 cases, and two cases of suprapubic fistulæ still persisting when they passed from observation. The results may be considered eminently satisfactory. As to other methods castration is unsatisfactory and mutilating. It does not always afford relief. Relapses occur. Its mortality in old men is almost if not quite as large as prostatectomy, and it does not furnish that rest for a diseased bladder so necessary in these cases. Bottini's operation would seem to be applicable only to milder cases, and to be open to the objection of causing dense cicatricial contraction and matting of the tissues, so that if prostatectomy should ever become necessary later it would be sadly complicated by the resultant scar tissue.

In Freudenberg's hands he had seen it relieve the frequency of urination though 200 c.c. of residual urine remained, so that often it was but palliative.

DR. WILLY MEYER read a paper on

PERSONAL EXPERIENCE WITH BOTTINI'S OPERATION FOR THE RADICAL TREATMENT OF HYPERTROPHY OF THE PROSTATE.

In addition to 5 cases reported before, Dr. Meyer has had 7 others. His third patient died thirty hours after operation but that is the only fatal case due directly to the operation. One patient died after a perineal section made immediately after the Bottini operation. A third died ten days later of sepsis. Of the 12 patients 6 were cured, that is, absolutely relieved of all their urinary symptoms; two were very much improved. The principle of the operation is certainly a good one, for it involves the mechanical removal of a mechanical obstruction. As to whether there might be recurrence from cicatricial contraction of the burned groove only Bottini himself has had long enough experience to answer the question with assurance and he has not seen a recurrence in twenty-three years of work with his method. In case of a relapse, however, there seems to be no reason why the procedure should not be employed a second time. One modification of Bottini's method Dr. Meyer has found advisable, that is, to do the cutting with the platinum knife at a white heat, not a red heat, the bladder not being empty as advised by Bottini, but full of some slightly antiseptic or aseptic fluid.

DISCUSSION.

DR. WEIR said that the two methods advocated were not generally known and practised by the profession and the account of them had been of great interest. He himself usually employs McGill's method and has obtained fair results with it. He said fair results advisedly, and in this work he thinks that the surgeon should be gratified with fair results, *i.e.*, if fifty per cent. of his patients are decidedly improved by operative interference. For some time, however, he has been impressed with the idea that the proper operation in the case is one of the enucleation operations, either Fuller's or Alexander's. The indication is to remove the obstruction and it is good surgery to do it thoroughly. Dr. Fuller's seemed to have the advantage of being shorter and less exhausting to the patient, requiring less anesthetic, and involving the loss of less blood. It is probable that this operation or some modification of it will eventually be adopted by all surgeons.

He could not help looking askance at Bottini's method. Twenty years ago and more it had been introduced with a great flourish of trumpets but had failed to fulfil the promises made for it. That was in the old days before antisepsis. Asepsis now with antiseptic surgery and greatly improved technic and instrumentarium had once more brought it before the public. Now, as twenty years ago, it is mainly one man who is enthusiastic about it. It does not seem, however, that surgeons will ever again be satisfied with the infliction of a wound that necessarily involves the sloughing away of tissues as do these cauterization wounds. They have been abandoned where they used to be most used, in the mouth and anus, and surgeons will not feel safe in a cavity so inevitably infective as the bladder in causing sloughs that will be

10 or 12 days in separating, with all the danger of infection always involved.

DR. HARTLEY thinks that Dr. Fuller's operation is often a very suitable one, and that it has many points to recommend it. There are cases, however, in which the perineal route is especially available, a modification of Nichols' operation being employed.

DR. ALEXANDER said he does not believe that either prostatectomy according to any of the present methods or Bottini's operation will always do good in hypertrophy of the prostate. We assume that we know much more about the prostate than we really do know, while in the matter of hypertrophy of the prostate especially there remains very much to learn. Dr. Fuller had said that the enlargement of the prostate is mainly due to overgrowth of muscular elements. A series of specimens carefully examined microscopically had convinced Dr. Alexander that the hypertrophy is mainly due to excess of growth of glandular tissue. The fibrous condition sometimes noted is due to secondary degeneration. The earlier in a case the specimen of prostate is examined the more completely glandular it is found to be. There is a question then whether we should not operate earlier than at present, not waiting for the imperative symptoms with bladder infection and general weakness that result. As for a benign tumor anywhere else, as soon as it gives symptoms remove it. The earlier the removal the better are the results as far as regards function and mortality. As regards radical operation, he is very well satisfied with his own method, though he concedes that others may get better results with theirs, the personal element having great weight in such cases. Two objections have been urged against it: that it is (1) long, (2) bloody. These objections come from a misunderstanding of the operation. Dr. Fuller had confounded his operation with that of Nichols of Glasgow. Twice already in print Dr. Alexander has insisted on the distinction between them. Nichols makes an incision across the perineum along the line from tuberosity to tuberosity. Alexander makes his as in ordinary perineal section, cutting at once into the membranous urethra and down to the apex of the prostate. From here it is not difficult after incising the capsule of the prostate to find the lines of cleavage in the organ and so enucleate it. Heretofore he has always made a suprapubic incision in order to push the prostate well down into the perineum. In two cases this summer, however, both of them thin subjects, he was able to accomplish prostatectomy without suprapubic incision, counter pressure being exerted through the thin belly walls.

The operation from the perineum has the advantage of leaving the muscular fibers in the trigone uncut, an extremely important consideration, for Dr. Alexander's anatomical specimens show that these fibers are useful for the complete emptying of the bladder. He has now done the operation some twelve times with excellent results, the patients being about in five weeks.

As to the patients with small prostates unenlarged as far as rectal palpation goes, and yet having the symptoms due to enlarged prostates, these were often cases of enlargement of accessory prostates in the trigonal region, a small tumor here being sufficient to block the urethrovesical opening. Situated here, too, they interrupt and interfere with the waves of muscular contraction in the bladder and so prevent its proper emptying. To these accessory prostates are really to be attributed the symptoms at times attributed to small fibrous prostates. Our best hope as to improvement in the treatment of prostatic hypertrophy lies in a better knowledge and deeper study of the anatomy and pathology of the part.

Dr. Fuller in closing the discussion said that the suprapubic route must be the one of election because of the facilities it gives for the control of hemorrhage, always a serious thing in operations in this region. Objections against it there could be none. By never permitting the suprapubic incision to be touched after operation danger of infection is greatly lessened and infiltration into the space of Retzius avoided.

DR. WILLY MEYER in concluding the discussion said that the objection to the Bottini operation because of the liability of the cauterized tissues to contracture afterward, seems unfounded. Experience has not demonstrated that it occurs and it may be reasoned that the passing of a good stream of urine at regular intervals keeps the opening patulous. No method of operating for prostatic hypertrophy is perfect, but certainly in men of eighty to ninety, or even younger ones when feeble, the simple manipulation of Bottini's method seems preferable to a cutting operation.

After the President's announced that Professor Wm. H. Welch of Baltimore would address the Academy at the next stated meeting, the session adjourned.

THERAPEUTIC HINTS.

Formula for a Diaphoretic Powder.—

℞	Pulv. camphoræ . . .		gs. ⅓—1⅔
	Pulv. opii		gr. ⅓—½
	Potassii nitratis . . .		gr. iii—v
	Sacchari		ʒ ii.

M. Ft. chart. No. I. Sig. To be taken in a cup of tea before retiring.—*v. Graefe.*

For the Asthenia of Infantile Gastro-intestinal Affections the following stimulating and nutritive mixture is recommended for rectal injection:

℞	Quininæ hydrochlorate, Asafœtidæ }	aa . .	gr. xv
	Tinct. moschi		*m.* xv
	Aq. dest.		℥ iv
	Yolk of egg		No. i.

M. Sig. For three or four injections in twenty-four hours.—*Jede.*

For Angina Pectoris.—When given in the following mixture nitroglycerin is said to afford relief very quickly. The dose may be increased as the patient grows tolerant of the drug.

℞	Nitroglycerin		gr. iii
	Tinct. capsici		ʒ ss
	Spiritus rect., Aq. menthæ pip. }	aa . . .	ʒ iii.

M. Sig. Two to ten drops in water.

THE MEDICAL NEWS.
A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXXIII. NEW YORK, SATURDAY, NOVEMBER 26, 1898. NO. 22.

ORIGINAL ARTICLES.

INHALATION OF OXYGEN IN ACUTE AFFECTIONS OF THE LUNGS.[1]

BY ANDREW H. SMITH, M.D.,
OF NEW YORK.

INHALATIONS of oxygen are now very commonly resorted to in chest affections when the dyspnea becomes marked. The use of this agent was introduced into this country by the writer in 1860. By experiments on animals he had demonstrated that by enriching the atmosphere with additional oxygen, life could be maintained for long periods under conditions of tracheal obstruction that would be immediately fatal in common air.[2] In an essay published in 1870, he showed what was then generally disbelieved, that the inhalation of even pure oxygen is harmless,[3] and urged the addition of the gas to the inspired air in a variety of diseases in which it had been found useful by European practitioners. The introduction of compressed oxygen in cylinders for commercial purposes facilitated the use of the gas in sufficiently liberal quantities to test its real value as a therapeutic agent, and for the last twenty-five years it has occupied a prominent place in the treatment of respiratory affections and especially pneumonia.

The result of the use of oxygen in cases of respiratory difficulty will depend largely upon the exact mechanical conditions present. If the obstruction is partial, and is of such a nature that air, once having passed it, can then have unrestricted access to the alveoli, an almost normal respiratory relation can be reestablished by adding enough oxygen to the respired air to compensate for the diminished quantity of the latter. But if the obstruction is complete, or practically so, in any part of the lung, or if it extends into the air-cells themselves, the case is quite different. Such a condition involves a lessening of the respiratory surface, which means much more than a mere narrowing of the air-passages.

It is essential to remember that normal respiration requires that a normal amount of oxygen shall be brought into relation with a normal quantity of blood. Now we possess the means of remedying to a certain extent a deficiency of air, since we can make a reduced volume contain the full amount of oxygen, but we have no power to act in a corresponding way upon the blood, for it cannot be made to take up an excess of oxygen in one part of the lungs to compensate for a deficiency in another. Suppose, for instance, the lumen of the trachea should be diminished experimentally one-half, we could double the proportion of oxygen in the air and the respiratory demand would be satisfied. But suppose that instead of narrowing the trachea to one-half its transverse area we should cut off one-half the supply of blood to the lungs by clamping one of the pulmonary arteries, the resulting dyspnea now would not be relieved by any amount of oxygen added to the respired air, for the reason that the blood circulating in the other lung would refuse to absorb more than the usual proportion of the gas, and the process of aeration of the blood would be only half accomplished. We might vary the first experiment by leaving the trachea unobstructed but closing entirely one of the primary bronchi. This would cause about the same reduction of the quantity of air inhaled, but at the same time it would throw out of use one-half of the pulmonary capillaries. In this case, as in the last, the addition of oxygen would fail to give relief, and for a similar reason.

It is not strictly true that when a restricted supply of air is compensated for by the addition of oxygen, the normal respiratory conditions are reestablished. To be entirely satisfactory the respirations must have the normal amplitude. This is necessary to give the free play to the lungs which is required for a proper distribution both of the air and the blood to all parts of the pulmonary structure. But the trouble from this source is not urgent, and can very well be tolerated for a considerable time.

Applying these considerations to the conditions occurring in acute respiratory disease we find them amply sustained by clinical results. The dyspnea of membranous croup is at once relieved by oxygen if enough be given to compensate for the diminished supply of air. Once get the required amount of oxygen past the obstruction and the respiratory distress ceases. The same is measurably true in bronchitis.

[1] Read by title before the American Climatological Association, September 1, 1898.

[2] "Oxygen Gas as a Remedy in Disease." Prize Essay of the Alumni Association, College of Physicians and Surgeons, New York.

[3] Among other experiments a number of mice were confined under a bell-glass, into which flowed a constant stream of pure oxygen. In this way the products of respiration were removed as rapidly as formed, and the purity of the respired gas was maintained. The experiment was continued for ninety-six hours, during which the animals took their food, arranged their bedding, and behaved in every way as mice in confinement are accustomed to do. After the conclusion of the experiment they were kept for several days and remained apparently in perfect health.

In this affection the secretion is rarely in sufficient quantity to entirely obstruct even the smallest tubes, and a way is left open by which the oxygen can reach the alveoli. There it meets an adequate supply of blood and the process of hematosis goes on in a fairly normal manner. But in pneumonia the case is entirely different. Here the air cells become filled up with the exudate and access to the respiratory surface is barred. The situation is similar to that in the last experiment, and so much of the dyspnea as depends upon the consolidation will remain in spite of oxygen used ever so freely. This is not to say, however, that no good comes from its use in lobar pneumonia, as there is almost always a certain amount of bronchitis or edema present at the same time, which adds more or less to the respiratory embarrassment.

Its value in these diseases rests on a broader foundation than is immediately apparent. It is not alone that it tends to avert suffocation. Indeed, it is very seldom that a patient, with pneumonia, for example, dies directly from deprivation of oxygen. As a rule, before death from actual suffocation takes place the heart, and particularly the right heart, gives out, and the fatal result is from asystole. This exhaustion of the right heart is a gradual process, and is brought about by the increased muscular effort required to propel the blood through the affected lung. The pulmonary ischemia is made up of two factors, one of which is the obstruction of the vessels, and the other and a very important one, the sluggishness with which blood not duly aerated circulates even through unobstructed capillaries.

It is in the relief of this latter condition that oxygen is most valuable. The moment the arterialization of the blood is improved the circulation becomes easier and the labor of the right heart is lightened. It is a serious error, however, to defer the use of oxygen until the dyspnea has become urgent. By its timely employment the cardiac force can be conserved, and congestion of the unaffected lung territory is in a great measure prevented. But inasmuch as blood even under the most favorable conditions will not take up an excess of oxygen, if we delay too long, and suffer the access of air to become too much restricted, no addition of oxygen acting upon the limited quantity of blood circulating in the lungs will suffice to restore the balance and regain the ground which has been lost.

While the results obtained from oxygen in the croupous form of pneumonia may not be so favorable as in the bronchial, still it is capable of rendering valuable aid in a large proportion of cases. A common source of disappointment lies in reserving its use until a period when, for reasons already considered, its value is comparatively limited. Even in those cases it may serve to bridge over a time of special danger, but the best results are obtained when it is given more or less freely from the moment that it becomes clear that the case is one of more than moderate severity. Its good effects will be shown in lessened frequency of the pulse and respiration, a better color of the face and lips and fewer moist râles in the chest.[1]

In spasmodic asthma it would seem as if the conditions were such as to insure most satisfactory results from the use of oxygen, and in practice relief is generally obtained from it almost immediately. But there are cases in which it does very little good, if any. Repeatedly witnessing such paradoxical results has led me to ask myself whether there may not be a form of asthma in which the spasm includes the blood-vessels of the lung as well as the air-tubes. I cannot otherwise explain why cases apparently similar to others which yield at once to the gas should be entirely rebellious to its influence.

In using the compressed gas, it is allowed to escape from the cylinder through a wash-bottle, the valve being so adjusted that the gas bubbles gently through the water. From the wash-bottle the gas is carried to the patient's mouth through a flexible tube provided with a mouthpiece of glass or hard rubber. If the patient is in a condition to hold this in his mouth no more will be required. Otherwise, it must be held by an attendant in such a position that the escaping gas will be drawn into the lungs with the current of inspired air. A still better way, especially if the patient is comatose, is to pass a small, flexible catheter through one nostril into the nasopharynx, and to connect this with the wash-bottle. In this way very little of the gas is wasted. If it is desired to add any volatile substance to the gas inhaled, a solution containing it may be made to replace the water in the wash-bottle.

There is no advantage in a lavish use of the gas, as the blood will take up only a very limited amount. If it escapes too freely it adds to the sensation of breathlessness, as is the case when one faces a strong wind. Only pure oxygen should be employed. The addition of nitrous oxid with the idea that it is more soluble in the blood should be condemned, as the oxid is useless for the purpose of respiration, and interferes with the proper interchange of gases within the lungs.

In pneumonia the indication for a resort to oxygen is present as soon as the respirations exceed thirty-five per minute, and earlier than this if mucous râles develop outside of the area of consolidation, or

[1] For a full discussion of this point see an article by the writer in the *New York Medical Gazette*, December 18, 1870.

if the lips assume a dusky hue. Under these conditions it may be given continuously or during a prescribed number of minutes in each hour.

GASTRIC ULCER.

BY A. L. BENEDICT, M.D.,
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UNDER the word ulcer must be included at least three types of gastric lesion. The type most closely analogous to ordinary external ulcers consists in the erosions found in acute toxic and traumatic gastritis. So-called hemorrhagic erosions, due to back-pressure of blood and most commonly found in cases of chronic gastritis dependent on hepatic sclerosis, do not belong to this type but are rather to be considered a form of the second type or as a separate class. The second type is the latent ulcer of the middle-aged and elderly, which usually gives no diagnostic symptoms and is discovered only at autopsy. The third type is the one which departs most of all from the general conception of the word, but is the one which is usually meant when no specification is made to the contrary.

Peptic, round or rodent ulcer has been ascribed to two conditions, hemorrhagic infarction and neurosis. The former theory is more satisfactory and tangible as a theory, but it is rendered improbable by the fact that persons who have gastric ulcer are seldom those in whom one would expect to find any of the pathologic states on which infarction depends and, *vice versa*, persons in whom serious circulatory conditions are in progress do not often exhibit signs of peptic ulcer. It is probable, however, that the second type, of latent ulcer, does occur more or less frequently from hemorrhagic infarction. The use of the word neurosis is always a confession of ignorance and many writers who have used it most learnedly have failed to explain why a nervous state should cause one part of the gastric wall to lose its vitality, and to be acted on by the gastric juice as if it were so much meat in the stomach. Perhaps it may be assumed that there is a local vasomotor spasm which temporarily shuts off nourishment from an area and allows its digestion. There is little dispute but that the actual formation of the ulcer depends on the digestion of a part of the gastric wall, however we may explain the lessening of the normal resistance to digestion.

As in the case of some forms of cancer it can be recognized quite clearly that the cause which determines the special location of the disease is largely traumatic or mechanical. Stoll and other Germans have shown that in men the pylorus and its immediate vicinity is the area of preference of gastric ulcer in sixty per cent. of all cases, while the lesser curvature is involved in forty per cent. of all cases occurring in women. The fact that no other part of the stomach wall shows any particular predilection in either sex and that there is so marked a sexual disparity plainly signifies that there is some physiologic underlying cause. It is explained that the pylorus bears the brunt of the irritation by food-particles and that it is also pressed upon by the liver at each descent of the diaphragm, in men, while in women the lateral constriction of corsets and waist-bands prevents the lesser curvature from getting out of the way of the descending diaphragm. On the other hand, it is an open question whether the bodies upon which the statistics were based represented a class of society in which corsets are much in vogue. This again brings up a still unsettled question as to whether there is any difference between the male and the female type of respiration, not directly explicable by differences in clothing. The writer would suggest that, possibly, the difference is due to the well-established fact that women are more liable than men to moderate dilatation and ptosis of the stomach, whether they wear corsets or not, and that a sagging stomach would escape the pressure of the diaphragm on its pyloric end.

Stoll's studies also seem to disprove the commonly accepted statement that the typical victim of gastric ulcer is a young, chlorotic, overworked woman. Allowing for the fewer persons living to an advanced age, as compared with the young, and for the fact that after the age of fifty, female mortality is lower than male, Stoll's statistics from several thousand observations indicate a greater predisposition on the part of the middle-aged and elderly and very little sexual difference. But it must be remembered that such statistics as these are based rather on the pathologic than the clinical conception of ulcer; that, in many instances, the ulcers are avowedly of the second or latent type and not suspected *ante-mortem*, and, if it were not for the carefulness of German observers in general and of those quoted in particular, one might question whether all these ulcers were really formed *ante-mortem* and whether they did not represent *post-mortem* softening, which has been described as a disease of the stomach within the period covered by the observations of Stoll and those from whom he quotes.

The present teaching points to a close causal relation between superacidity of the gastric juice and gastric ulcer. But there are obvious objections to making a diagnostic use of this relation, since a stomach in which the existence of an ulcer is suspected is the very one in which interference by the tube is most contraindicated. Moreover, there is

very little support for the idea that there is a constant superacidity in cases of ulcer, even limiting the use of the word *constant* to periods of the height of digestion. Stoll, in a personal letter, states that superacidity does not exist in more than fifty per cent. of cases of gastric ulcer, while the study of his report of about ninety cases gives the conclusion that only twenty-five per cent. were marked by superacidity, while an equal proportion showed a real deficiency of acid.

The diagnosis of the third class of gastric ulcer occasions no difficulty. Erosions may be assumed to be present in every case of corrosive poisoning, and if, in comparatively rare instances, the assumption happens to be wrong no harm is done. The diagnosis of the second class of ulcer is easy for the reason of its extreme difficulty. One must consider the possibility of latent ulcer in cases of dilatation and gastroptosis, of chronic gastric catarrh and its ultimate stage of anadenia, and particularly when hepatic sclerosis or heart disease causes back pressure in the venous radicles of the stomach, but it is almost always impossible to state whether an actual solution of superficial continuity exists or not, nor is it necessary to modify our treatment materially according to our verdict for or against the probability of such an occurrence.

It must be conceded that peptic ulcer may exist without marked hemorrhage, and that such cases are usually overlooked. Among the many symptoms of gastric ulcer of the first class that have been mentioned by clinicians, pain is the only one which is at all characteristic, and there is absolutely nothing except hemorrhage which is of diagnostic value either by its presence or absence. Thus the diagnosis of peptic ulcer is essentially a localization of the source of a hemorrhage, appearing at the mouth or anus, or both. Most medical students graduate with the idea that it is a comparatively easy matter to diagnose between hematemesis, hemoptysis, and local bleeding from the nose and throat; that only ignorance or carelessness can occasion error. In many instances considerable difficulty attends the localization of the hemorrhage. For example, a young man was seized suddenly with a copious hemorrhage from the mouth, with neither gagging nor coughing except after the blood had begun to flow, and while in apparently perfect health. He had one of the best developed and most muscular chests that I ever saw, was well nourished, and of good complexion except for the sudden pallor. There was no history of strain which might account for a pulmonary or other apoplexy. I examined him first for local causes of bleeding in the mouth, pharynx, and nose without success. Physical examination showed a good-sized cavity in the left lung, and the subsequent course of the disease confirmed the diagnosis of consumption previously undiscovered. The following case remains undecided:

On March 26, 1897, J. H. H., aged twenty-nine years, consulted me on account of gaseous dyspepsia, with constipation and cardiac irritability hardly amounting to palpitation. He gave a fairly typical history of malaria during the previous year cured by quinin without medical attendance. His domestic relations were unhappy, and he was working from twelve to fifteen hours daily, where he had to be constantly on the alert to entertain customers. He was smoking and drinking tea rather excessively, and was suffering from insomnia. The heart and liver were normal, the spleen was moderately enlarged, and the stomach was in a state of ptosis, reaching to one-fourth of an inch above the umbilical equator. I did not examine his lungs as there was nothing to call attention to them. The liability to gastric ulcer was considered on account of the depressed and excitable state of the patient, but hydrochloric acid was given on account of the evident fermentation and the lack of effervescence with soda at the height of digestion. It is not necessary to detail the treatment contemplated, as the patient became disgusted after four-days' treatment without cure and sought another physician. Two months later he had a violent hemorrhage and died in twenty minutes, before medical aid could be summoned. During this time he had coughed somewhat, and his physician had made a tentative diagnosis of tuberculosis with possible cavity, though the physical signs had been doubtful. An autopsy was not allowed. Careful questioning of his brother, who was with him at the time of death, elicited nothing definitely diagnostic as to the source of bleeding, but the blood was described as coming in large quantities and without symptoms of choking as would be expected if it had issued through the air passages.

Even if the diagnosis of hematemesis can be made, one must still choose from a number of conditions. If moderate, it may be due to erosions or previously latent ulcers, perhaps depending on hepatic sclerosis. The bleeding of a cancer, either of the stomach or esophagus, is usually gradual, and the blood becomes black before its appearance, and is not present in alarming quantities, but a cancer may ulcerate into a vessel and cause a flood of blood. Age is not a positively diagnostic factor. The writer has recently attended and witnessed the autopsy on a man aged thirty-two years who had a cancer of the cardia and esophagus. If we accept Stoll's statistics as applicable to peptic ulcer in the strict sense the period of greatest frequency is the same for both ulcer and cancer. Massive hemorrhages may occur from ruptured varices of the cardia and esophagus, usually due to hepatic sclerosis. A case probably of this nature was reported by the writer two or three years

ago and, at that time, about thirty-five cases were on record. The writer has had under treatment for seven years a woman who has had prolapsed uterus, hemorrhoids, cerebral apoplexy, frequent subcutaneous rupture of veins, and several small hemorrhages in which the blood has escaped through the mouth, the exact site of the bleeding being unknown. A general state of angiosclerosis seems to exist, the patient being of the class of "lady tipplers" who become alcoholic as a result of invalidism. The most remarkable source of hematemesis that the writer ever saw was reported nine years ago, the diagnosis having been made only at autopsy. A large ovarian cyst, the presence of which was obvious, had become adherent to the colon, rupture had occurred into the bowel below the ileocecal valve and blood filled the entire alimentary canal, the patient having had hematemesis and having passed tarry stools for a week before death. Duodenal ulcer is comparatively rare. A diagnostic differentiation has been proposed, according as the hemorrhage appears at the mouth or the anus, but the differentiation does not hold good either for or against either condition. Fortunately, the question is rather of scientific than of therapeutic interest.

Of late years the treatment of gastric ulcer has turned too much on the matter of acidity. The two following cases will illustrate the lack of connection, though it must be granted that superacidity is to be dreaded in all cases of ulcer:

Margaret X., aged twenty-three years, single, gave a distinct history of hematemesis the year previous and said that her physician had diagnosed gastric ulcer. Her present complaint was gastric fermentation with every symptom of subacidity, and the examination of the stomach contents at the height of digestion after a light test-meal showed absolute lack of hydrochloric acid by resorcin and sugar.

Mr. L., a young professional student, illustrated the opposite condition. He had no failure of digestive power; on the contrary, his appetite was increased. At the height of digestion, after most of his meals, he had suffered from pain in the epigastrium, which would be relieved by drinking water or eating again. This condition had existed for about a week to such a degree as to occasion much discomfort. Previously it had not been so noticeable. The writer's effervescence test showed marked acidity six hours after a hearty meal when the stomach should have been and appeared to be empty. A month later (the patient lived out of town and could not call as often as was desired) the same test was marked four and one-half hours after eating in spite of sedatives and restriction of chlorids. This patient, an unusually intelligent observer, noted the symptoms of superacidity for a period of five or six weeks with never more than two-days' freedom from local pain and often with the occurrence of pain after every meal, but he could find no indication of blood in the stools nor was there other evidence of the actual development of an ulcer. There was also entire freedom from the signs and symptoms of fermentation with excessive development of organic acids. The writer has never observed a case in which organic acids could be supposed to cause audible effervescence with soda.

The following typical case of gastric ulcer is reported in detail for the sake of emphasizing the treatment:

Miss M. P., American, seamstress, aged twenty-one years, was treated in the spring of 1896 for subacid dyspepsia, confirmed by analysis of the gastric contents and by repeated absence of the effervescence test, and made a good recovery. She gave a history of similar attacks during preceding springs. On January 15, 1897, she appeared at my office looking like a ghost, panting for breath and complaining of palpitation of the heart, which was beating 130 times a minute. She had taken a street-car to within a thousand feet of the office. Her history was that she had been perfectly well until two days before, when she became pale, weak, and dizzy, but persisted in working, and had rallied in strength. That day she had vomited something black and had passed a tarry stool. Morphin, $\frac{1}{4}$ of a grain, and atrophin, $\frac{1}{100}$ of a grain, were given by hypodermatic injection and after a brief rest the patient was taken home in a closed sleigh surrounded by heaters. After she had been put to bed 30 minims of fluid extract of ergot was administered hypodermatically, the alcohol being first driven off in an extemporized water-bath and the residue diluted with boiled water. She was directed to take nothing by the mouth until I saw her again. The next morning, feeling better, she ate a small piece of bacon. Half an hour later the soda test showed considerable effervescence. Her urine contained neither albumin nor sugar, but was loaded with indican, signifying that the bowels were filled with putrescent material, presumably blood. In such cases the indican test is of considerable diagnostic value. The day's routine included two doses of 15 minims of ergotole, two nutrient injections of 1 egg and 7 ounces of milk, and at night a morphin and atrophin tablet. Regarding the ergotole I would like to say that it is an excellent preparation but that the claim that it is less painful for hypodermatic use than other preparations of ergot has not been substantiated in my experience. The only preparation of ergot which does not occasion considerable discomfort is the so-called ergotin, of which the dosage seems to be a matter of guesswork.

Early in the morning of January 17th, four days after the beginning of symptoms of loss of blood, the patient vomited about ten ounces of liquid containing dark-red clots. Bits of ice had been allowed during the preceding twenty-four hours. Morphin, $\frac{1}{4}$ of a grain, and ergotole, 12 minims, were given hypodermatically in succession. At nine o'clock the patient vomited again, but there had

been no fresh bleeding of any consequence. At 11 o'clock the morning nutrient enema was given, preceded, as all such enemata must be, by a douche of plain water to clear the rectum. The stools brought away by the douches or passed spontaneously were at first tarry, becoming normal after a week. At 1 P. M. vomiting occurred again, with only a few small black specks of blood. Morphin and atropin were given by the mouth. At five o'clock the ergotole was repeated. At 7 P. M. the patient vomited seven ounces of black, watery stomach contents. This emesis was apparently provoked by the water enema preceding the evening nutrition.

During the next day the patient had about ¾ of a grain of morphin on account of nausea and 80 minims of ergotole. Fifteen grains of bismuth subcarbonate was given toward evening. In the evening vomiting occurred of dark fluid, apparently containing little masses of blood. Microscopically these proved to be bismuth (sulphid), although red and white blood-cells were also present. The stomach contents were acid by benzo-purpurin, the most sensitive of the anilin dyes, but did not react to resorcin and sugar. Starch and sugar were absent, as would be expected. Albumin, albumose, and peptone were each present in small amount, probably from digestion of the blood.

After this there was no further hemorrhage, the use of morphin was discontinued, and the ergotole was reduced to 15 or 30 minims daily. Beginning January 19th, 2½ drams of a ten-per-cent. mixture of bismuth hydrate was given four times daily. After January 21st, 15 minims of tincture of the chlorid of iron was added to each nutrient enema on account of the anemia. On January 23d the German method of applying flaxseed-meal poultices to the epigastrium was instituted. Hemic murmurs were heard for a few days, but had disappeared by January 26th. The pulse had varied between 85 and 100, and the temperature had not been above 100.5° F.

On January 28th, feeding by the stomach was resumed, bread and milk being first given, then oysters, meat, and eggs. In such cases easily digestible food should be given, but it must be "hearty"; that is, composed largely of proteids which will tax the gastric juice and leave no excess of acid and pepsin to digest the gastric wall. On January 30th the urine for twenty-four hours amounted to 24½ ounces, and was normal except for a moderate excess of indican and a small amount of urea, only 11.9, the estimated normal under the circumstances being about 18. On February 7th free uric acid was present. After that date the urine was once faintly alkalin, with precipitation of phosphates, and once traces of albumin and globulin were found.

On February 11th the patient was discharged from active treatment, but continued for some time under general hygienic measures, including, especially, gymnastics to increase the chest expansion and to correct a rotary-lateral curvature of the spine. Iron and arsenic were also given and a long rest was insisted upon. Fortunately, the patient was working rather from an independent spirit than from necessity.

In these cases the indications are first to check the hemorrhage, then to allow the ulcer to heal, and finally to restore the digestive and general tone. Local styptics do more harm than good, and the stomach must be kept in a state of almost absolute physiologic rest. Ice is used rather as a compromise with the demands of the patient than with the hope of controlling hemorrhage. Much of the nausea which threatens to cause a renewal of hemorrhage is doubtless due to the morphin given at the beginning, but its use is scarcely preventable, and, for once, one must resort to the plan of *similia similibus curantur*, and control the nausea for a few days with more morphin. Ergot at present is the favored constrictor of blood-vessels. Some form of insoluble antiseptic astringent is indicated as a dressing for the ulcer, and the mixture of freshly precipitated bismuth hydrate is, in my opinion, an ideal one. However, the subcarbonate may be used with good effects. During the administration of bismuth it is important to distinguish the black color of the stools and vomitus from that due to digested blood. The semicrystalline appearance of bismuth sulphid under the microscope is easily learned, though difficult to describe. A black coating on the tongue indicates the presence of hydrogen disulphid, and unless eggs or beans have been taken by the mouth this is hardly ever present except from the action of the bacillus coli communis in the stomach or duodenum. It is an interesting speculation as to whether the bacillus has actually colonized in the ulcer. It may be well to combine a more powerful gastro-intestinal antiseptic, like salacetol, benzonaphthol, or the like, with the bismuth. Menthol and similar stimulants of local circulation should be avoided as long as danger of hemorrhage exists.

Addendum.—Since writing the above, my attention has several times been directed to the importance of knowing whether blood is or is not present in various secretions and excretions. There is no satisfactory test. I have known the test with guaiacum to fail after the intentional addition of several drops of blood to urine. Of at least negative value is the hematoidin reaction obtained by acidifying with acetic acid and extracting with ether, when a brownish color should occur. In a recent case the diagnosis of cancer of the bowel had been made largely on account of the belief that blood was present in the stools. This test showed its absence. The appearance of a reaction may be due to bile pigments.

THE CAUSE AND TREATMENT OF BUBO.

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Bubo may be caused by chancroids, gonorrhea, chancroid and chancre or mixed infection, chancre, trauma, or by non-venereal elements. This classification represents the order of frequency, as it has occurred in the writer's practice.

A chancroidal bubo is by far the most frequent complication of chancroid. Sturgis[1] states that in 249 cases of chancroids bubo occurred in 71, a percentage of 28.5. Szadet[2] reports 1084 cases, among which were 274 buboes, a percentage of 25.1. Martin[3] records 19 per cent. in 163 cases in his hospital service, while in private practice there was only 5 per cent. of buboes in all cases of chancroids treated. In the writer's record of 156 cases of chancroid, bubo occurred in 53, a percentage of 33.9. These figures are taken from dispensary work, while in private practice my percentage has been less than 3 per cent.

While buboes may be double or single, the majority of them are single. Sturgis in 71 cases of buboes records 54 single and 17 double. Perry[4] in 36 buboes records 27 single and 9 double. In the writer's 53 cases, occurring in dispensary work, 43 were single and 10 double. In private practice all buboes due to chancroids have been single. The writer believes that there is no source so pronounced a factor in the cause of chancroidal buboes as uncleanliness.

Luca[5] holds that simple bubo is due to the ordinary pyogenic bacteria, while the ulcerating bubo is the result of the direct action of the specific microbe developing inflammation only after opening, because the microbe is aerobic. Ducrey,[6] the father, so to speak, of the bacilli found in chancroidal sores, states that he believes that chancroidal buboes are the result of destructive action upon the glandular tissue of the chemical products engendered by the micro-organism of soft chancre. He further states that the bacilli of chancroids can be found in the pus of chancroidal buboes.[7] These views have been upheld by Welander,[8] Krefting,[9] Unna,[10] and other observers. The latest observations on this subject come from the pen of Deutsch,[11] recording 66 cases of suppurating buboes, 37 of which occurred with chancroid, and 29 with either chancre or a mixed sore. Of the 37 cases occurring in a complication of chancroid, inoculation upon the abdomen was successful, with the production of a typical chancroid in three instances only. In these three cases the pus from the buboes showed the presence of the Ducrey-Krefting bacillus. The pus obtained from the buboes could be classified under one of three heads: Sterile pus; pus containing streptococci or other pus-producing micro-organisms; pus containing the Ducrey-Krefting bacillus, either with or without the admixture of other micro-organisms.

It was found that buboes containing sterile pus healed within a short time and the auto-inoculations were unsuccessful; seven to ten days usually sufficed for healing to take place. Those buboes under the second heading took a longer time to heal, fourteen to twenty days, being longer in the cases of strumous individuals, and inoculations in these cases were unsuccessful. Those buboes containing the Ducrey-Krefting bacilli took a much longer time to heal, and were most difficult to treat. Auto-inoculation in these cases was successful. This careful bacteriological and experimental study on this subject makes Deutsch's article one of the most important and valuable contributions to the study of buboes that has appeared in recent years. On the other hand there are many authors who do not believe in the buboes of chancroids being caused by micro-organisms. Taylor[12] says, "When I say in some cases in which there has been absolutely no chancrous pus-contamination of the abscess, dirt, uncleanliness, and carelessness have caused the suppurating process to become virulent and to assume all the features and qualities of a typical chancroidal abscess."

White and Martin[13] say that the direct cause of bubo is not clearly formulated. The destructive adenitis is not due to the action of micro-organisms upon the gland. Cultures and auto-inoculations made with the discharge of buboes give negative results, and microscopic examination of such discharge fails to show bacteria. The degeneration of the glands is probably owing to the presence of a chemical irritant absorbed from the ulcerating surface.

Of the 156 cases of chancroids occurring in the practice of the writer, chancroidal buboes were present in 53 instances. Of these, 40 presented pus and were opened. Three were simple enlargements of the gland, and never reached the stage of pus formation. Of the remaining 10, 6 had broken down and were in a bad condition when the patients presented themselves for treatment. Four became infected at or after the operation. Out of the 40 cases of buboes, the pus was examined in 20 by the microscope, by culture-media, and by reinoculation, results being negative in all instances. In the ten cases of virulent buboes the pus was examined in all, and gave positive results of the presence of the pus-forming micro-organism by the microscope and by culture-media. Reinoculation was not successful. Nothing resembling the Ducrey-Krefting bacilli was discovered.

GONORRHEAL BUBO.

Taylor[14] states that an adenitis following a gonor-

rhea is the result of the too actively aggressive treatment of gonorrhea or of bodily strain. Lydston[15] believes that a bubo complicating a urethritis is due in every instance to secondary lymphatic infection by pus-microbes. Finger[16] states that Brockhard found streptococcus pyogenes in the pus of an acute suppurating adenitis complicating gonorrhea, and it is, therefore, probable that we sometimes have to deal with a mixed infection. Perry[4] claims that it is a somewhat rare complication and when it occurs it is probably due to the absorption of a chemic poison, the result of a mixed infection.

A short time ago I had a very interesting case of gonorrhea complicated by a bubo. The urethral discharge contained the Neisser coccus. At the time of consultation it was the third week of the disease, and the patient noticed a small lump in the left groin. The bubo pointed and had to be opened. The urethral treatment consisted of chlorid of sodium, 1 grain to the ounce, injected four times daily. The discharge was examined daily, and as the bubo enlarged the germs were disappearing from the discharge until the bubo was opened. After this the urethral discharge ceased. The bubo was treated carefully, and healed within ten days. The pus from the bubo was carefully examined. The results were negative. It hardly seems possible that the salt solution used as an injection exerted any influence upon the course of the disease, especially upon the urethral inflammation. The bubo may have been caused by the active and perhaps the severe treatment that the patient received at the start; he was being treated by the hot irrigation of permanganate of potassium four times daily. The patient was not in a debilitated condition when under treatment.

The percentage of gonorrheal buboes in my practice is 2.3 per cent.

CHANCRE AND CHANCROIDAL, OR "MIXED CHANCRE."

I have seen but ten cases of the "mixed chancre," all of which were complicated by buboes. In all but two cases they were double. The two exceptions were followed by the most virulent suppuration, but as soon as the patient was put on an antisyphilitic treatment they responded quickly. These two cases, I believe, were the result of a too active and severe treatment of the mixed sore.

CHANCRE BUBO.

Chancroidal buboes are invariably double, and it is rare for them to break down and suppurate. I have seen four cases of syphilitic buboes which suppurated. This was due in each instance to the irritation and inflammation caused by the cauterization of the initial lesion with nitric acid. This occurred in the clinic of a celebrated foreign syphilographer.

TRAUMATIC OR NON-VENEREAL BUBOES.

My records show 20 cases of buboes of traumatic origin. In every instance a careful examination and inquiry was made into the history of the patient and the result was that venereal causes were excluded. In only 6 of the cases was the general health poor. In none was there an abrasion or sore on the penis. In 2 cases there was a distinct irritation in the foot. One was an infected toe from an ingrowing nail, and the other from an abscess of the sole of the foot. No suppuration took place.

Godding[17] says that non-venereal buboes are quite common in the British navy, both in the home and in the foreign department. The inguinal glands alone are attacked, the exciting cause being a sprain or an abrasion on the toe, but there may be no appreciable cause. The glands may or may not suppurate. The constitutional condition is usually low. In seven years the yearly average was 733 cases among 56,000 persons, or about 13 per 1000. These cases are reported with detailed symptoms.

TREATMENT.

I was taught some ten or twelve years ago, and that teaching was by some of the best genito-urinary surgeons at home and abroad, to cauterize the penile sore by pure carbolic or nitric acid, and then dust on iodoform if the sufferer was a charity patient, or if a private one boric acid and calomel, and encase the organ in a bichlorid dressing. This manner of procedure was invariably followed by buboes. Martin[18] says cauterization of the chancroid is the safest routine treatment, and for this purpose he advises zinc chlorid, caustic potash, bromin, iodin, nitrate of silver, and the actual cautery. By far the best means is the actual cautery, either the glowing iron, the Paquelin apparatus, or the galvanic cautery.

Munn[20] advocates in cases of concealed chancroids with phimosis, incision of the dorsum of the prepuce, curetting of the infected sore and the soft mushy adjacent tissues, followed by circumcision. Out of 21 cases thus treated, all but two were successful. Thorough antiseptic precautions were practised in all cases. In regard to reinfection, he makes the following statement: "Theoretically, it might seem that infected lymphatics would reinfect deep tissues after the most thorough curettage, but this has not occurred, although in a number of instances the inguinal lymphatic glands were so enlarged as to require excision at the same time as the circumcision."

If I have the good fortune to see the chancroid in the first 48 hours or during the first week, providing the lesion has not involved much of the surrounding tissue and is superficial rather than deep, I pro-

ceed as follows: The patient is put under ether, the surrounding parts are shaved, then washed with green soap and water, then irrigated thoroughly with bichlorid, 1–2000, the lesion is thoroughly cauterized with the Paquelin cautery and then dressed with glutol-Schleich and moist bichlorid gauze, 1–1000. If the latter is put on properly it will not come off. My practice is to leave the dressing on from 5 to 7 days. If it is necessary to redress the wound the same steps are repeated with the exception of the cauterization. My results show a cure in from 7 to 12 days. Fifteen cases thus treated give an average cure in 12 days, without buboes. If the lesion has involved much tissue, the above steps are followed out with the exception of using the cautery. A sharp curette is employed. The average cure in 10 cases has been from 14 to 17 days. No complication of bubo was observed. In those cases complicated by a slight inguinal enlargement it is my practice to apply some unguentum hydrargyri (U. S. P.) and a pad consisting of a sufficient number of layers of gauze to make it one-half an inch in thickness, 6 inches in length, and 3 in width, which is held in place by a tight spica. In these cases the inguinal enlargement disappears as the chancroid heals.

In cases of chancrous phimosis I believe the treatment advanced by Munn is the most rational procedure yet proposed. My experience with this method embraces only eight cases, all of which responded promptly without reinfection or complication.

The treatment of buboes is generally divided into the following methods: (1) External applications. (2) Hypodermic injections of various medicinal agents into the gland. (3) Incision. (4) Excision.

To abort buboes in their first stage by the external application of drugs is in the majority of cases hopeless. Tincture of iodin, belladonna ointment or ichthyol (10 per cent.), when applied to a bubo as a complication of a chancroid, is simply a waste of time and does more harm than good. In some cases of gonorrheal and non-venereal buboes I have seen the application of belladonna ointment, with the gauze pad and a tight spica, yield some very good results, but I believe that these were obtained more through the effects of the spica than from the ointment.

The treatment of buboes by hypodermic injections of various antiseptic solutions has been proposed as a method of absorbing them. M. K. Taylor[21] advocated the use of 10 grains to the ounce of carbolic acid, 10 to 40 minims of this solution being injected into the bubo. I gave it a trial in six cases of buboes from chancroids and it was a failure in each instance.

Welander[8] advises the use of a 1-per-cent. solution of benzoate of mercury to abort buboes and reports good success. Out of 15 cases thus treated by the writer 2 were successful, and in 13 cases it failed. In each instance there was considerable pain, and in 1 case the reaction was so marked that the patient was confined to his bed for three days with a fever that ranged from 100° to 103° F., and finally the bubo had to be incised. The treatment of suppurating buboes by incision as soon as fluctuation is observed is in the writer's opinion by far the best practice in these cases.

Helm[23] was the first to devise the treatment of buboes by incision and the application of iodoform blown into the cavity. This method with the modification of using iodoform ointment in the cavity was very carefully discussed in a paper by Fountain,[22] but it was reserved for Hayden[24] to modify and demonstrate this form of treatment, and institute a method which to-day gives better results than any other method yet devised. In 25 cases treated by Hayden's method the average duration in which the patient was under treatment was 18 days. The shortest was 9 days and the longest 24 days.

In 40 cases treated by the writer's method, which is nearly the same as Hayden's, with one or two exceptions, I obtained the following results: 28 patients were cured in 6 days, 7 in 9 days, 3 in 12 days, and 2 in 18 days. The shortest duration was 6 days, and the longest 18 days, the average being about 11 days. The different steps are as follows: The parts are shaved and scrubbed with hot water and green soap, then washed with bichlorid, 1–1000; a few drops of a 4-per-cent. solution of cocain are then injected under the skin at the most dependent point of the bubo, and it is again washed with bichlorid, 1–1000. The incision is made at the selected point with an ordinary sharp-pointed bistoury carried well into the bubo, and all the pus is expressed by firm pressure. The cavity is then irrigated with pure peroxid of hydrogen. This is continued until the fluid returns clear. This is followed by irrigation with a warm solution (100° F.) of bichlorid, 1–3000, for 2 or 3 minutes. The cavity is filled with glutol-Schleich, forced into it by a powder blower of sufficient size to allow the glutol to pass through it, and glutol is sprinkled over the external wound. A gauze pad squeezed out in 1–3000 bichlorid is placed over the wound, and a tight spica bandage is placed over all.

It is my practice not to remove the bandage for 6 days unless there is staining from the discharge or the bandage has slipped. It is best for the patient

to remain on his back for the first 24 hours. The scar left from the incision is small. The glutol in my hands has given me better results than has 10-per-cent. iodoform-vaselin, and a great factor to be considered, especially among private patients is the disagreeable odor of iodoform, to which one and all most emphatically object, as they believe it is a trade-mark of their trouble.

The excision of buboes has for its champion Watson[25] who has very carefully laid down the rules and steps of the operation, and reports an amount of success that hardly seems possible. From 20 unselected cases, he gets union by first intention in 10 cases. Taylor[12] is also a mild advocate of this method. I am of the opinion that the operation is unnecessary. Dr. Coley of New York informs me that he has observed hernia, as a result of this operation, in a number of instances in his service at the Hospital for Ruptured and Crippled. I have seen in the past few weeks a man who was rejected from the United States service because of similar scars. I have practised this operation four times. A cure was attained in all cases, but two required 28 days, one 22, and the other 26 days.

The buboes of syphilis respond promptly to the specific treatment. They seldom suppurate. The buboes of gonorrhea can be aborted by the application of some mild ointment with pressure applied in the form of a spica.

The buboes of non-venereal or traumatic origin respond well to the treatment of pressure by a tight spica with some mild ointment applied over the bubo. It may be necessary in some cases to place the patient on some appropriate internal medication. One must be governed by the individual requirement in each case. It is rare for these buboes to suppurate.

Gaither[26] advoçates a method of absorbing buboes by means of a pressure bandage, which is applied as follows: "A piece of cotton as large as the fist is folded in on itself again and again until it has the shape of the bubo, and when placed on it does not completely cover it. This is carefully adjusted and a wad of tightly compressed cotton as large as a cocoanut placed over it. Small pieces of cotton are also used on the inner and outer surfaces of the thigh to prevent chafing. A very tight spica bandage is then put on. This bandage is put on regardless of the age of the bubo, and a satisfactory result was obtained in more than 85 per cent. of the cases."

The conclusions which the writer wishes to convey, are: First, he believes that with proper care of the sore on the penis the complication known as bubo may be aborted; second, that there is but one method to treat suppurating buboes successfully and that is by early incision of the tumor and antiseptic treatment. The operation becomes of importance only after the incision when careless after-treatment makes the percentage of uncured cases high.

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For Chloasma.—

℞ Beta-naphthol . . . ʒ iss—ʒ iii
Zinci oxidi } aa . . . ʒ iiiss
Amyli }
Vaselini . . . q.s.ad. ℥ ii.

M. Ft. ungt. Sig. To be applied daily for a number of days for one-half to one hour at a time.—*Saalfeld.*

CHOLELITHIASIS; WITH A REPORT OF SOME OPERATIVE CASES OF DR. CHARLES M'BURNEY.

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ESTIMATES have been made that ten per cent. of all persons have gall-stones at some period of their lives. It is also stated that only about a quarter of these persons suffer from the presence of the calculi. It is impossible to prove the accuracy of these figures, but we do know that autopsies are frequently made on individuals in whose gall-bladders a number of stones exist, and yet the calculi have given rise to no trouble during life. Why one individual should be made to suffer the pain and misery which form the striking symptoms of the disease while another, with the same pathological conditions, can journey through life entirely unconscious of the sufferings he has escaped is difficult to answer. The causes of gall-stones undoubtedly depend on two main pathological changes: an inflamed condition of the mucous membrane lining the bile passages and an altered condition of the bile itself, although there are other contributory factors of secondary importance. The change in the mucous membrane of the ducts is an extension of a similar process from the lining of the intestines and stomach, having as its etiology a gastroduodenitis of a mild chronic type brought on by abuse of the alimentary tract. This alteration in the mucous membrane favors the deposit of the cholestrin, inspissated bile, and other bile elements which go to make up the substance of the calculi.

The change in the composition of bile that favors the formation of calculi is a decrease of bile salts and a diminution of the watery elements. Biliary calculi are formed in the bile radicles of the liver, or more commonly in the gall-bladder. As to shape and appearance, one may classify the stones into three general forms: The first and perhaps least common are large, smooth, rounded, or ovoid masses about the consistency of dry putty and are easily broken up. They are not infrequently half an inch in diameter. The second type consists of small, rounded masses covered with little sharp spicules. The stones are hard, jet black, and about one-quarter of an inch in diameter. The third and most common form is the familiar, smooth-facetted brown stone, with a great range of size, varying from tiny particles to that of a large hazelnut. In addition to the calculi simple inspissated bile may give rise to the symptoms of cholelithiasis.

After the calculus is formed at its site of origin, either in the gall-bladder or in the liver, its subsequent history may be as follows: The calculus makes no attempt to escape, but remains quiescent, not giving rise to symptoms; or else the stone makes one or more attempts to pass out of the gall-bladder, but finding the cystic duct too small, falls back into the gall-bladder only to renew the attempt later. Still another type is that in which the stone leaves its site of origin, passes into the bile-ducts (either the cystic or hepatic), hence into the common duct, and finally escapes into the duodenum. The cases in which the worst class of symptoms arise are those in which there is an attempted passage of a stone, but the final escape into the intestine fails and the calculus remains lodged in the common duct.

The symptoms of these several conditions are but logical deductions of the various causes. When the stone remains quiescent in the gall-bladder or liver there are no symptoms; if the calculus attempts to leave the gall-bladder there is pain, due to the partial distention of the cystic duct, owing to the attempts of the stone to engage, and also pain from the distention of the gall-bladder with mucus, with cessation of pain when the stone slips back into the gall-bladder and the mucus has a chance to escape. The complete passage of a calculus, unless very small, produces the well-known symptoms of biliary colic. Intense agonizing pain in the region of the gall-bladder, radiating to the back and epigastrium; the sudden cessation of the pain, with the development of jaundice in a day or two, are the main symptoms. The jaundice is due to the obstruction of the common bile-duct by the swollen mucous membrane, produced by the irritation of the stone in its passage.

The most interesting class from the standpoint of the surgeon is that in which the gall-stone, having left its point of origin, attempts to pass into the intestine, but finding the ducts too small, is caught at some point in the lumen of the cystic, hepatic, or common bile-duct and is unable to advance or to retreat because the swollen mucous membrane has diminished the caliber of the duct. Here the stone remains, more or less occluding the duct. The bile, if the stone is in the hepatic or common duct, banks up behind and around the stone until the duct is sufficiently distended to allow the bile to pass the obstruction and thus escape into the gut. This condition repeats itself until a permanently dilated area is formed in which the stone rocks back and forth like a shuttle in its groove, occasionally obstructing the passage of bile by becoming caught in the distal end of the tube and acting as a ball-valve whenever the stone attempts to escape.

The general symptoms of such a state of affairs

are, first, an attack of sharp, severe pain, coincident with the original excursion of the stone. The pain gradually subsides as the duct becomes stretched and accustomed to the pressure of the stone. There is also severe and prolonged jaundice with several exacerbations until the duct has become sufficiently enlarged to allow the bile to flow freely around the obstruction. When the dilatation of the duct is well established the patient returns more or less fully to a state of good health, but the presence of the stone in the duct is a source of subsequent attacks of pain and jaundice. If the stone has become lodged in the cystic duct the jaundice is absent, but the mechanical conditions are the same; the gall-bladder becoming distended with mucus causes much pain. The gall-bladder may empty itself by dilating the cystic duct, or a condition of empyema of the gall-bladder may supervene.

Not much skill is needed to make a diagnosis of gall-stones when the main symptoms are paroxysms of pain in the region of the gall-bladder radiating to the back and epigastrium, followed by jaundice, although one must bear in mind the possibilities of tumors pressing on the passages. The difficult cases to diagnose are those unaccompanied by jaundice. In such cases the pain is often referred to the epigastrium, begins with moderate severity, and may take two or three days to reach its climax (here the pain is caused by the gall-bladder being distended with mucus). The pain ceases when the tension is relieved. Many of these patients are treated for gastric neuralgia, gastric gout, indigestion, dyspepsia, etc.

The treatment by medical means is directed toward restoring the normal state of the mucous membrane and rendering the bile more fluid. The treatment is mainly prophylactic. The plans often suggested for dissolving stones already formed are absurd, but undoubtedly medicinal treatment is of great service in favoring the passage and escape of calculi already formed. Dr. Delafield uses olive oil empirically, in pint doses, for this purpose, and has had excellent results. For the removal of stones too large to pass through the channels of exit, and which call for interference on account of prolonged jaundice, empyema of the gall-bladder, abscess of the liver, or continued attacks of severe pain, surgery is the only relief. If it could be positively determined that the lesions were confined to the gall-bladder, either as a gall-bladder overdistended with mucus, pus, or calculi, the operation could be made comparatively simple. The plan in such a case would be as follows: A short vertical incision should be made through the abdominal wall just to the inner side of the outer margin of the rectus muscle over the fundus of the gall-bladder. The gall-bladder should then be drawn forward and stitched to the edge of the wound. The next day, after sufficient time has elapsed to shut off the peritoneal cavity by an agglutinating peritonitis, the gall-bladder should be opened and the contents evacuated. After several days of free drainage the gall-bladder and abdominal wound should be allowed to heal by granulation Such a procedure would be rapid, safe, and sure. On the other hand it is almost impossible to determine, through a small incision, whether the lesion is confined solely to the gall-bladder or whether some additional trouble is present in the liver or ducts. This point must be positively determined before it is justifiable to limit the operation merely to opening the gall-bladder. To make a careful examination of all the bile passages a generous incision is needed.

In determining the best forms of incision the fact must be borne in mind that, other conditions being equal, the subsequent tone and vigor of muscular tissue after operation depends on the number of nerves supplying those muscles which have been cut. It is also perfectly well established that a muscle split in the direction of its fibers presents a stronger healed surface than those in which the fibers have been cut across. A review of the course of the dorsal nerves which supply the rectus and other abdominal muscles will aid in determining the line of incision. The lower dorsal nerves emerge from under cover of the ribs, pass obliquely downward, forward, and inward until they reach the margin of the rectus. On reaching the outer margin of the rectus the nerves divide into two branches, the upper branch passing inward and slightly upward and the lower inward and slightly downward. The course of the nerves can be very accurately outlined by mapping out certain lines on the abdomen. For this plan I am indebted to Dr. George E. Brewer. The plan is as follows: From a point one-half inch below the tip of the last rib draw a line to the spine of the pubes of the opposite side. This line, or rather as much of it as extends from the point of origin to the outer margin of the rectus muscle, very accurately overlies the twelfth dorsal nerve as it courses along under cover of the internal oblique. On reaching the border of the rectus the nerve splits into its two branches as described above. A similar line drawn from a point one-half an inch above the tip of the twelfth rib to the middle of Poupart's ligament on the opposite side marks the eleventh nerve. A line starting one-half inch in front of and above the tip of the eleventh rib and extending to the anterior-superior spine of the ilium of the opposite side traces the course of the tenth nerve. The eighth nerve

runs just below the inferior margin of the eighth rib, passes forward and upward to the ensiform cartilage, following closely the curve of the eighth costal cartilage through the entire distance. The nerve never lies more than half an inch below the inferior margin of the eighth rib or cartilage. The ninth nerve lies between the ninth and tenth ribs. It leaves the line of the ninth rib at the osteochondral junction and passes forward, downward, and inward to the margin of the rectus muscle. There are no suitable landmarks from which to find the approach of the ninth nerve to the edge of the rectus. It is sufficiently accurate to describe the ninth nerve as splitting up into its two branches at the edge of the rectus at a point midway between the entrance of the eighth and tenth nerves into the muscle.

Having mapped out the nerves an incision should be made which will destroy as few nerves as possible and at the same time give enough room for free exploration and operation. The best incision extends from about half an inch below the free border of the costal cartilages to a point two or three inches above the umbilicus. It passes just within the outer margin of the right rectus muscle. The wound only destroys one nerve, the ninth, and divides the muscle in a longitudinal direction. It also provides enough room for exploration and operation. Another point of entrance which offers the advantage of giving far more room without destroying any more nerves (the ninth being destroyed in either case) is a curved incision parallel to the free border of the costal cartilages and about one inch below them. The incision starts just below and to the outer side of the ensiform cartilage and may be made to extend as far posteriorly as the point of emergence of the tenth nerve. A serious objection may be urged against this second incision, for, although a far greater field is exposed, nevertheless, the muscle fibers of the rectus, external oblique and transversalis are divided at nearly right angles to their long axes. Even after primary union a cut muscle is not so strong as a split muscle.

Having freely exposed the gall-bladder and subhepatic region by means of either of these incisions the bile-ducts should be carefully examined with the finger to detect any impacted calculi that may be present. It is quite possible that a stone lightly lodged in the ducts may be pushed by manipulations into the intestine either by accident or design. But the greatest care and gentleness must be observed in the attempt to force a stone onward as it is not a difficult matter to seriously injure or even rupture the ducts by attempting to crowd through them a stone larger than the caliber of the ducts will admit. After locating the calculi in either the gall-bladder or the ducts the question of the best method of removal must be decided. If in the gall-bladder, the calculi are removed through an incision in the fundus of the gall-bladder after the latter has been stitched to the abdominal wound. The entire abdominal wound may then be closed by suture except the small portion surrounding the fundus of the gall-bladder. On the other hand, if the calculus be impacted in one of the ducts, the duct is incised and the stone removed and subsequently the wound in the duct is sutured, but only a part of the abdominal wound can be closed, as leakage from the sutured duct must be guarded against by packing.

The anatomical position of the lower part of the common duct coursing behind and under cover of the duodenum is such as to render the exposure of the duct by dissection entirely impracticable. Hence, it is impossible to extract a calculus impacted low down in the common duct by incising the duct at the point of obstruction. To obviate this difficulty Dr. McBurney has devised the plan of opening the intestine and withdrawing the obstructing calculus by means of forceps introduced through the intestinal orifice of the common bile-duct. An additional value of this method is that it permits a greater closure of the abdominal wound than would be safe when the bile-ducts have been incised, for although the ducts have been closed by suture, the risk of leakage is great and must be guarded against by generous packing. The dilatation of the orifice of the duct is also a probable advantage.

The operative procedure is as follows: The abdomen is opened by either the vertical incision or the curved one along the margin of the costal cartilages. Any adhesions that can be broken down with safety are destroyed. An incision one inch long longitudinal to the long axis of the gut is made in the anterior wall of the duodenum, about an inch below the beginning of the descending portion. With the finger the cavity of the descending duodenum is carefully explored until the papilla marking the conjoined orifice of the common bile-duct and pancreatic duct is felt. This papilla is situated at the junction of the inner and posterior walls of the duodenum and about an inch below a crescentic fold of mucous membrane which marks the angle of junction between the ascending and descending portions of the duodenum. The papilla is then drawn into plain view, the orifice identified, and a probe passed into the common duct.

Having established the entrance into the bile-duct a pair of toothed forceps is introduced along the interior of the duct as far as the obstructing calculus, which is then grasped with the forceps and withdrawn. The introduction of the forceps and the re-

moval of the stone markedly dilate the normally narrow opening of the common bile-duct. The dilatation of the orifice is of probable value in permitting the easy escape of the inspissated bile or small calculi that may have escaped observation. The intestinal wound is now closed by an ordinary double row of sutures and the abdominal wound closed, or a drainage-tube may be left leading down to the suture line in the intestine. The tube is only left in place forty-eight hours, after which time the wound may be fully closed with secondary sutures.

One of the most annoying sequelæ of cholecystostomy is the long time the biliary fistula remains patent, in some instances never closing without a second operation. In the more recent cases of patients operated upon at the Roosevelt Hospital Dr. McBurney has employed a modification in technic which has markedly hastened the closure of the fistula. The ordinary procedure has been to suture the edge of the incision in the fundus of the gall-bladder to the opening left in the abdominal wall. A rubber tube or gauze drain is then put into the gall-bladder. Dr. McBurney's plan is to suture the circumference of the gall-bladder about one-half an inch below the fundus to the edges of the abdominal opening. A purse-string suture is then passed around the gall-bladder between the opening in the fundus and the line of suture to the abdominal wall. The purse-string, of course, involves only the muscular and serous coats. The free edge of the incised fundus is now inverted with thumb forceps, a small rubber drainage-tube introduced, and the purse-string tightened so as to prevent a reversion of the inverted parts to their original position. Of course, the suture is not drawn tight enough to occlude the lumen of the rubber drain. The value of this method is apparent when, after several days, the drain is removed. The inverted flaps act as valves to partially prevent the leakage of bile, and, more especially, the serous surfaces are approximated, thus producing far more rapid closure than if one depended upon granulations.

In the following five cases only the gall-bladder was opened and drained by either a rubber tube or gauze: (1) The biliary fistula was patent and bile flowing freely at the end of one month. (2) Bile still flowing at end of six weeks. (3) The gall-bladder was found empty. Subsequent discharge of bile was very slight. Fistula closed in three weeks. (4) Many stones were being discharged and fistula did not close for two and one-half months. (5) Bile still discharging at end of two months. As opposed to this list attention is called to the rapid closure in cases in which the gall-bladder had been inverted. (*a*) Nine hundred and fifty-nine stones removed. The fundus was inverted. In ten days the fistula was closed. (*b*) Fundus inverted. No discharge of bile at the end of five days. (*c*) Practically no discharge at the end of eight days.

There have been five patients operated upon by the method of opening the duodenum and extracting the calculi through the opening of the common duct. The first operation was performed in December, 1896. The technic was the same as has already been described. After closing the gut a glass drainage-tube was left extending from the abdominal wound to the line of suture. The calculus was found to be half an inch long and three-eighths of an inch in diameter, lying in the lower part of the common duct. The patient died in three days. After death the intestinal wound was found closed and the bile passages normal. The intestines were enormously distended. No gross evidences of peritonitis.

A second patient was operated upon in June, 1897. Two large calculi were felt in the lower part of the common duct and were removed through the intestine. Several large calculi were removed from the gall-bladder through an opening in the fundus. There was also a large stone in the cystic duct, which was removed through the gall-bladder. The intestinal wound was sutured and a glass drain left in the abdominal wound leading to the line of suture. The fundus of the gall-bladder was inverted around a small rubber tube. At the end of two days the glass tube was removed, and at the end of five days the rubber tube also. There was no leakage after the tube was removed. At the end of one month the wounds were healed, but the patient had another attack of biliary colic with jaundice. The symptoms disappeared in a week and since then he has been in complete health. The secondary attack was doubtless due to the passage of some small calculi overlooked at the time of operation. There were two other instances of impacted calculi being removed through the intestine. The histories are not at hand, but the results were successful and the healing rapid.

The most recent case was that of a patient operated upon in April, 1898. A calculus of the size of a hazelnut was found impacted close to the intestinal orifice of the common duct. The intestine was incised. By placing the finger outside the lumen of the gut, but within the angle between the ascending and descending duodenum, the stone could be felt and pushed, together with the orifice of the bile-duct, into the incision in the gut. Then the orifice of the duct was peeled off from the calculus and the stone was removed. The gall-bladder seemed to be empty and was not opened. After closing the intestinal wound the entire abdominal wound was

closed by sutures. At the end of eight days the wounds were healed, the patient much improved, and there was every prospect of a complete and rapid recovery.

CLINICAL LECTURE.

FACIAL NEURALGIA.[1]

BY WM. L. RODMAN, M.D.,
OF PHILADELPHIA;
FORMERLY PROFESSOR OF SURGERY AND CLINICAL SURGERY IN THE KENTUCKY SCHOOL OF MEDICINE; SURGEON TO THE STS. MARY AND ELIZABETH HOSPITAL; CONSULTING SURGEON TO THE LOUISVILLE CITY HOSPITAL.

THIS patient, Mr. B., aged forty-one years, was sent to us by Drs. Brown and Ishmael of Winchester, Ky. He has been troubled with a neuralgic condition of all the branches of the fifth nerve on the right side. The pain at first was thought by himself and his wife to be due to his teeth, and with that one idea in mind he applied to a dentist and had a number of teeth withdrawn; in fact, all the upper teeth on that side except the last molar. He says that the pain extends to the middle line; there is no pain on the left side at all; it comes down below the eye, up above the eye, and on the side of the head back as far as the filaments of the fifth nerve are distributed. This makes the case, then, one of neuralgia of the fifth nerve.

The history of the case would not seem to indicate that the trouble is of central origin. The patient has never had any specific disease, nor has he ever had any lesion that would lead one to think that there is any central trouble. He has recently suffered from various local complaints, but I will not speak of them as I cannot see that they have any bearing on the case and you might be misled thereby.

It will be noticed that the left side of his face twitches a great deal; that it is markedly choreic, though on this side he says there is no pain. The pain is confined entirely to the right side, and has existed almost continuously during the last fifteen months, whereas the choreic symptoms on the left side have lasted six or seven years. As a matter of course he has suffered greatly, and has taken everything in the materia medica in order to obtain relief, which has not been secured. He has been under the care of some of the most intelligent and up-to-date physicians in the State of Kentucky, and has had the benefit of everything that can be suggested in the way of medical treatment. Of course, medicinal agents give him relief to a certain extent, but do not effect a cure, and his physicians, after having treated him for fifteen months, have come to the conclusion that nothing but surgery offers promise of permanent relief.

The only kind of surgery suited to a case of this kind, or that would offer anything, would be intracranial section of the fifth nerve. Time and time again I have excised the supra-orbital and inferior orbital as well as other branches of the fifth nerve for relief of conditions of this kind, and while relief has been temporary, in no case in my own practice, or of which I have knowledge in the practice of my confréres, has the relief been at all permanent. The pain has always returned. Therefore we must offer something more than temporary relief, and if we operate upon this patient, as I think we shall, then it will be an intracranial neurectomy of the fifth nerve. The best operation for reaching the fifth nerve is one which was devised at the same time and independently of each other by Hartley of New York, and Krause, a German; therefore, it is generally spoken of in this country as the Hartley-Krause operation. The head having been well shaved and rendered thoroughly aseptic, an omega-shaped incision is made down to the bone. The temporal or other vessels that bleed are caught up, the flap turned down, and with a chisel a free cut is made into the bone all around to the same extent as the flap of the soft parts. In turn the external table and the diploe are cut through, and with retractors the flap is lifted up, the bone, muscles, and periosteum being turned back so as to allow ample room. The brain is then lifted up and the two main branches of the fifth nerve, which come in here at the foramen ovale and foramen rotundum are easily found. The two branches can easily be traced back to the Gasserian ganglion, which is located in the apex of the petrous portion of the temporal bone. These two branches, the superior and inferior maxillary, pass out from the lower two-thirds of the Gasserian ganglion. It is best, as a rule, not to interfere with the first division of the fifth nerve, because it is the ophthalmic branch which goes to the eye, and very serious conjunctivitis and panophthalmitis may ensue if this branch of the nerve is cut. For that reason it is also best not to interfere with the upper third of the ganglion of Gasser, for if it is all taken out the ophthalmic branch will be affected. Even though I shall aim not to injure the ophthalmic branch, I may do so during the operation. I shall sew his eyelids together before the operation and keep them sewn together for a week afterward, so as to keep out the light, and try to prevent any inflammation about the eye.

There are dangers in this operation, as a matter of course. It is not an easy operation in the first place, neither is it one devoid of danger. It is to be expected that hemorrhage is a feature of the operation for the reason that the temporal artery is cut when the soft parts are divided. When the bone is cut through and then fractured and the flap overturned, the middle meningeal artery will frequently be ruptured. It depends upon whether the artery runs through the foramen or through the groove at the anterior inferior angle of the bone. Sometimes it is in the groove, sometimes in the foramen; if it is in the groove it will not be ruptured; if in the foramen it likely will be. It is not a particularly grave accident because the wound is an open one, and the meningeal artery can easily be grasped and tied. The temporosphenoidal lobe is the one to be raised. Underneath the base of this lobe can be seen the second and third branches of the nerve, one going to the foramen ovale, the other to the foramen rotundum, and during this step of the operation it is better for the surgeon to have a good mirror attached to his forehead in order that a strong

[1] A Clinical Lecture delivered at the Hospital of the Kentucky School of Medicine.

light may be thrown on the field of operation. As the brain is lifted up and the surgeon cuts down upon these branches he necessarily divides some blood-vessels, but if the operation is performed carefully hemorrhage, as a rule, is not great, though in many cases it has been so profuse as to necessitate immediate packing with gauze, the gauze being left *in situ* two, three, or four days, the operation thus being completed in two stages. So great a surgeon as W. W. Keen of Jefferson College, Philadelphia, has reported nine cases of this operation, and if I mistake not, in four or five of them he was compelled to complete the operation in this way. In one case he packed in an enormous quantity of gauze before hemorrhage was controlled. Many other operators, Hartley of New York, Tiffany of Baltimore, Gerster, McBurney, and others, have completed the operation at one sitting, and do not speak of hemorrhage as being such a marked feature of the operation. Still, one should be prepared for considerable hemorrhage, although the operation should be completed at one sitting if possible.

The brain is lifted up and the two branches of the fifth nerve followed back to the ganglion of Gasser; then the two branches between the foramen in front and ganglion behind are cut out. In removing the Gasserian ganglion it is necessary to be very careful not to sever the large blood-vessels in its immediate vicinity. The entire flap is then turned back into position, and a drainage-tube is inserted and allowed to remain in place for forty-eight hours. The wound usually heals without trouble.

The dangers of the operation are principally those from shock, and it can be understood that shock is great. The next danger is the occurrence of sepsis; and the next that an abscess may occur perhaps two, three, four, five, or even six weeks, or even later, after the operation. I believe all these dangers have been exaggerated. Tiffany of Baltimore, a most excellent surgeon, reviewed all the published reports of cases up to the time of delivering his presidential address before the Southern Surgical and Gynecological Society, which met in Washington last November. He wrote to every surgeon in the country to know if he had performed the operation, and as a result of his inquiries he reported 108 cases, many of the patients having been operated upon by himself, but more by Keen than any one else. The mortality following the operation was shown to be about twenty-two per cent., and I have already explained to this patient and his friends that his chances of dying are about one in five. I was perfectly candid with him, and told him what I have just stated to you. I have told him, furthermore, that the less serious operation of excising the inferior and supra-orbital nerves might give him relief, but that I have never seen it occur, although if he wished to have it tried first I was willing to do it.

A great many other operations have been suggested in the past. For instance, Meckel's ganglion may be removed. This was first done in this country, if not the first time in the world, by the elder Pancoast, at that time professor of surgery in Jefferson Medical College, one of the greatest surgeons the world has ever known. The skill and dexterity with which he operated was marvelous. I saw him operate when he was past eighty years of age; he was in his dotage; he could not call anything by its right name, although he had taught anatomy for forty years. He came into the clinic one Saturday morning arrayed in a full-dress suit (he always came before the class in this dress), and his son, with a great deal of manner, characteristic of the family, said to his father: "Will not the distinguished Emeritus Professor of Surgery operate upon this patient?" The old gentleman said he would, and a patient was brought in with an enormous fatty tumor between the scapulæ. I never saw such a brilliant operation in my life. He made the incision with one stroke of the knife, and then with his fingers simply scooped the tumor out.

As I have said, he was the first to remove Meckel's ganglion, and one can readily understand the dangers attending such an operation at that period. Since then other, and I believe better, operations have been devised for the relief of the condition before us. Rose of England devised one in which he goes in from the outside down to the fossa, and resects the ganglion and process, penetrating to the superior maxillary fossa, but I think the best operation is the one of Hartley, the credit for which he is undoubtedly entitled, because he published the report of his case and showed the patient to the Surgical Society of New York before Krause had performed his operation or published a report of it, so we unquestionably should call it the Hartley operation. I probably shall perform the operation upon this patient one week from to-day, or it may be sooner.

The question may come up in your minds, Why perform an operation, seemingly so very severe, in which the chances of the patient's dying are one in five, for facial neuralgia? Is it not too bold? Is it not in a measure unjustifiable? I have never myself suffered from facial neuralgia, but from reports received from patients who have I believe I would rather submit to any operation rather than suffer the pain of the disease, and it may be said that these patients practically never get well under medicinal treatment. If they are relieved temporarily it is only a question of time before they have another attack. That has been the history in the patient before us, and he says life is not worth living in his present condition, that he is becoming desperate from the constant pain, and is prepared to undergo anything which promises relief. Therefore, knowing how much he suffers now, I think we are justified in performing the operation I have outlined to you. Statistics show that the operation almost invariably cures these patients. As a matter of course, if the operative technic is imperfect, if part of the ganglion or even one branch of the fifth nerve is left behind, either the second or third, then the trouble may recur in the area to which that branch is distributed, but a complete and perfect operation almost necessarily promises immunity from neuralgia in that special locality for the balance of the patient's life. This man is a favorable subject, and should recover after the operation. He is only forty-one years of age, which is another good feature. Most of the cases reviewed by Tiffany occurred

in older subjects, and his mortality was about twenty-two per cent. In younger subjects it naturally should be less.

CLINICAL MEMORANDUM.

TRAUMATIC CATARACT IN AN INFANT'S EYE FROM PRESSURE OF FORCEPS.

BY EDWARD S. PECK, M.D.,
OF NEW YORK.

THE case I am about to report seems to be of sufficient importance to be brought before this Section on account of its rarity.

Shortly before eight o'clock on the night of October 14, 1890, I was called in great haste to see a newborn child, and was told that its right eye had been forced out upon its cheek during an instrumental delivery. The mother, a primipara, twenty-one years of age, had been in labor seventy-two hours; extreme uterine inertia had occurred and under anesthesia forceps had been applied by her attending physician two hours previously. The forceps was applied high up, with the result that the right blade fell across the right eye of the child just under the inferior lid. The skin of the forehead was injured a little to the right of the median line, and the helix of the right ear was tightly compressed and turned back, but not torn. Careful examination of the eye showed a large subconjunctival hemorrhage, the whole inferior cul-de-sac of the conjunctiva being filled with blood, and the lower lid correspondingly swollen. The eyeball was softened and flattened from above downward, and was of a quadrilateral form. The cornea was steamy, the pupil larger than its fellow, and the pupillary field was seen to rapidly change from a dull-grayish reflex to a dense whitish body. Under atropin dilatation the opacity of the lens was seen to slowly increase until a soft cataract entirely filled the area of the lens. These changes in the lens occupied about twenty minutes. The sclerotic and corneal coats were not ruptured, but it was feared that a partial detachment of the retina had taken place.

The treatment consisted of instillations of a solution of 1–5000 bichlorid of mercury over the eyeball at regular intervals, the application of ice-cold cloths, and a drop of a solution of atropin sulphate, 1 grain to the ounce, every four hours. On the following day the conjunctival hemorrhage and swelling of the lid had nearly disappeared, so rapid are the absorptive properties of the lymphatics of an infant. A fully formed milky cataract filled the area of the pupil, ocular tension had increased, but the eyeball still retained its square form.

On the following day, forty hours after the injury, the eyeball had resumed its spherical shape, ocular tension was equal to that of its fellow, all lid-swelling was absent, but the cartaract retained its opacity, milky white color, and absence of nucleus. On the ninth day of the child's life the condition was as follows: The lids of the eye opened slitwise without aid, the pupil and cataract being readily seen. The corneal opacity still remained. On the thirty-third day both eyes opened equally well, the cornea had regained its clearness and reflex, the soft cataract still persisted, but perception of light was manifested by subjective tests.

The child was next seen at the age of 5½ months, at which time the following notes were taken: Pupil responsive to light and of same diameter as that of its fellow. Palpebral slit of same size as the other. Ophthalmoscope by the direct method shows a red reflex, and the retinal veins and arteries can be traced. A soft and diffuse cataract remains, the opaque spots showing themselves in flocs. The scar on the forehead is adherent to the frontal bone; the helix of the right ear is bent back.

The child was nursed by its mother and at no time showed signs of pain in the eye. When he was about two years of age the right eye began to show a slight divergent squint. The following was the condition when he was last examined by me, in May, 1898, at the age of seven years and seven months: Right eye—V=20/70+: with a 1.D. lens, V=20/50: reads Jaeger handtypes No. II. with a + 2.D. lens, the head being slightly turned toward the light. Left eye—V=20/12; Jaeger No. I. is easily read at 3 to 16 inches. Right eye has a divergent strabismus of 2½ lines. There is a probability of almost, if not entirely, perfect vision in this eye. Frontal scar is still present, but the integument is no longer adherent to the bone.

The case is interesting for the following reasons: In the first place it is the only case of the kind on record. *Schmidt's Jahrbücher*, the *Index Medicus*, and the "Catalogue of the Medical Library of the United States," fail to furnish a case similar as to the cause of trauma and clinical facts. Secondly, out of 3 carefully watched cases of evolution of cataract due to injury, this is the first I have seen occurring in so young a subject. Thirdly, a trauma severe enough to produce not only cataract but diminished ocular tension, with possibly detachment of the retina and blindness, is followed in a few years by cataract absorption, re-attachment of the retina, and exceedingly useful vision, due to the natural processes of repair and not to operation.

[1] Read in the Section on Pediatrics of the New York Academy of Medicine, November 10, 1898.

MEDICAL PROGRESS.

Unconscious Childbirth.—BALEY (*La Med. Mod.*, August 31, 1898) attended a primipara aged twenty-three years, who was in excellent health. After two hours of slight labor pains the os uteri had dilated to the size of a two-franc piece. Then the pains seemed to die out, and the doctor returned home. Two hours later he was hastily summoned, the patient having stated that the pains were returning. Having prepared his hand for an examination, his surprise may be imagined upon finding the child fully delivered and lying in a pool of amniotic fluid. It was not breathing, but a hot bath and spinal friction restored it to life. The mother was entirely ignorant of the fact that the child had been born. She had perceived the flow of water and a slight increase in the pain, but nothing else. The child weighed six and one-

half pounds, and its delivery had not even broken the skin of the perineum.

A Simple Method of Sterilizing Catgut.—ROBSON (*Lancet*, October 1, 1898) has been experimenting with the sterilization of catgut in fluids the boiling-point of which is higher than water. He found xylol to be the most satisfactory. Catgut boiled in this fluid is better than that boiled in alcohol, for it shrinks, and thus gains in strength and "bites" better when tied. The exact method adopted is the following: The catgut is wound *loosely* from end to end round an elongated glass reel. Several of these glass reels are then introduced into a metal cylinder, the cap of which screws on, and after more xylol than is sufficient to cover them has been poured in, the cap is adjusted. The whole is then put into boiling water in the sterilizer and allowed to remain along with the instruments for from twenty minutes to half an hour. After thus being sterilized, the reels, with the catgut which has shrunk around them, are removed *at once*, and kept in ether in five-per-cent. carbolic-acid solution or in methylated spirit, the latter being preferable, as any aqueous solution tends to cause catgut to swell. In this solution they may be kept on the reels till required. The xylol should be used but once, as a certain amount of decomposition takes place and the catgut will soften if heated in it a second time.

The Simplest Treatment of Umbilical Hernia in Children.—SCHLIEP (*Thera. Monatshefte*, September, 1898) regards an umbilical hernia in the first or second year of life as an almost physiological condition, so common is it. It usually disappears as soon as the child learns to express its desires by some other method than by crying. Experiments have shown that the stump of the umbilical cord is prevented from drying up by the string which is tied around it. It is far better not to tie the cord, but to touch the end of it with a three- or five-per-cent. solution of nitrate of silver. If this is done the cord will dry up in a day or two. If the cord has not fallen off by the third day, Schliep removes it except a very short stump, and dusts the part with powdered formalin gelatin. A bit of cotton soaked in salicylic collodion covers this. Some days later the fragment of the stump which remained comes away, and the granulating surface is touched with a stick of nitrate of silver.

Schliep proposes to use the power of compression of collodion in the treatment of hernia, and especially in the treatment of umbilical hernias of children.

Symptoms of Gastric Perforation.—AUFRAY (*Gaz. Hebdom. de Med. et de Chir.*, September 8, 1898) gives the following rules for the recognition of perforation of the stomach before operation. The pain is sudden, intense, exactly localized, and almost invariably constant. It is usually increased by the ingestion of liquids. This abdominal pain, like the thrust of a sword, is the best diagnostic sign. There will be also noticed an especial tension of the abdomen, a certain hardness with retraction of the abdominal walls, which, if present, cannot fail to point to the stomach as the seat of perforation. Other signs less constant are the intensity and rapidity of the collapse, the absence of vomiting, the fever. As soon as laparotomy is performed the escape of gas without odor, at least without fecal odor, the presence of partly digested food, intestinal adhesions increasing upward, ought all to indicate to the surgeon that he has to do with perforation of the stomach.

Sulphrenic Abscess Following Appendicitis.—SPILLMANN (*La Presse Med.*, September 7, 1898) mentions the occurrence of an abscess after an attack of appendicitis in a rather unusual situation. Abscesses in the pelvis behind the cecum or in the lumbar region are by no means uncommon. In the case referred to a boy aged sixteen years became very much fatigued by a long horseback ride, and suffered from an attack of appendicitis. One week later his abdomen was dilated, there was marked dyspnea with absence of vesicular murmur in the lower portion of the right chest. The patient died without operation two weeks later. At autopsy it was found that a pocket containing about two liters (quarts) of pus existed between the diaphragm and the liver. The appendix was gangrenous and perforated. A sinus led from its base to the pocket above referred to.

Thrombosis and Embolism after Childbirth.—SINGER (*Archiv für Gynakologie*, vol. xvi, p. 218) shows that thrombosis and embolism is an important complication of childbirth, and one which is often overlooked. He reports thirty-five instances of its occurrence. From a study of these cases the following conclusions are drawn:

1. Formation of the thrombus is preceded by an irregular rise in the pulse-rate. This rise is associated with the development of the thrombus, and the maximum is reached when the thrombus is completely formed or symptoms develop in the lungs.

2. The curve of the pulse is characteristic.

3. In a typical pulse-curve in thrombosis the pulse rises, while the temperature remains normal. It remains high until the development of edema or a palpable hard cord or symptoms referable to the lungs cause the temperature to rise. If in the next few hours or days the temperature falls the pulse still remains high for some days longer.

4. A variation from this type is found in those patients in whom other causes have produced high temperature before the development of thrombus.

5. In such cases the thrombus is apt to be an infected one, and the discharges of the patient should be carefully examined in order to ascertain the character of the infection.

6. Such examination will often reveal the presence of gonococci.

7. The good results from the treatment of thrombosis follow its early detection, hence it is of importance to note carefully the pulse-curve as well as that of the temperature.

8. Rest in bed is the most important part of the treatment. Above all things the patient must not be allowed to sit or stand up. The pulse is the absolute guide. The patient ought to be kept in bed at least three weeks after the pulse has become normal.

THE MEDICAL NEWS.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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Address the Editor: J. RIDDLE GOFFE, M.D.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK.

Subscription Price, including postage in U. S. and Canada.

PER ANNUM IN ADVANCE	$4.00
SINGLE COPIES	.10
WITH THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, PER ANNUM	7.50

Subscriptions may begin at any date. The safest mode of remittance is by bank check or postal money order, drawn to the order of the undersigned. When neither is accessible, remittances may be made, at the risk of the publishers, by forwarding in *registered* letters.

LEA BROTHERS & CO.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK,
AND NOS. 706, 708 & 710 SANSOM ST., PHILADELPHIA.

SATURDAY, NOVEMBER 26, 1898.

THE last echoes of election excitement have died out, the results are definitely known, and we have all settled down for better or worse to accept those results. Most of us, we feel sure, are heartily glad that it is over. An election of to-day is associated with so much that is irritating to the feelings of intelligent citizens that one is glad to be rid of the nuisance of it all for at least another year. Verily, the methods at present employed to influence voters, the partisan clap-trap speeches, the cheap advertising dodges, the persistent appeal to prejudice and party spirit rather than to reason, the public betting, and its ostentatious publication for the purpose of influencing the men who, being sporty themselves, do not want to vote on a losing side and wait the announcement of the final odds to decide their vote for them—all this is enough to offend the intelligent voter to the soul. It forms a most interesting commentary on that palladium of our liberties, universal suffrage.

But the intelligent citizen must not permit his interest in political affairs to wane because politics is corrupt and debased; that is but to allow the present state of affairs to continue and perpetuate itself. Every citizen, and most of all the intelligent one, owes it to himself to be interested as to how he shall be governed. The doctor above all, with the influence that he consciously or unconsciously exerts in the community around him, is bound to put aside his personal feelings of repulsion for certain party methods and use the influence he possesses for what he considers the cause of good, honest government. In the profession as it is at present largely constituted, its members men of liberal education, broadened by application to a calling that teaches them "to hold nothing human as of slight consideration," with interests awakened in every phase of humanity's development and feelings rendered acute by constant contact with human suffering, there should be no lurking place for the man who selfishly neglects his duties as a citizen.

Instead of taking the place that knowledge of human needs should give it in politics, the profession is scarcely a factor to be reckoned with at all in the political arena. As a consequence, when there comes the question of reform through legislative action on some point demanded by the public health or by professional interests, medical men are scarcely listened to in the matter, their well-known tendency to shirk personal political duties being a sufficient guarantee to the politicians, as a rule, that the neglect of their petitions will be followed by no political consequences. To follow the selfish policy of avoiding all trouble by letting politics severely alone is not compatible with the duty the medical man owes to himself, his profession, and to his government. Every physician should, on the contrary, be the center of a circle of political influence that makes for what is best in local and general government. To fail to be such is to fall short of the mission that has fallen to the profession of later years, that of making human life more livable and its environment better calculated to foster the proper evolution of the race. This is a mission the signs of whose fulfilment are all around us at the end of the Nineteenth Century, in the pregnant influence of medical men in psychological questions, in the problems of sociology, in all educational matters as well as in their more proper field, the care of public health.

THE result of the secondary elections for the Prussian legislature in Berlin have just been an-

nounced, and the Social Democrats (Radicals) have made large gains. Among the members reelected by the radicals is Professor Virchow, the pathologist, who, despite his advanced age, nearly seventy-eight, still retains his interest in governmental affairs. Ever since his investigation of the conditions existing among the poor people in Silesia during an epidemic of typhus that raged there some fifty years ago, he has been an uncompromising Social Democrat, an intense advocate of popular rights. His attitude in politics threatened at one time to interrupt his scientific career, and he was compelled to resign his position as prosector of anatomy at the Charité Hospital, Berlin. He received shortly after, however, a call to the professorship of pathologic anatomy at Wurzburg, and six years later came back to Berlin in triumph as Professor of Pathology. He could then afford to have political opinions, and though it has deprived him of decorations, titles, and honors which would have been heaped upon him, he has clung firmly to the principles he adopted in the enthusiastic philanthropy of his younger days. Ever since the advent of the present emperor it is said that it has been hinted to him that the title of excellenz would follow a modification of some of his radical political views. The hint missed its purpose.

Despite his years, Virchow is a most faithful attendant on the legislative sessions, is listened to with a great deal of attention, and his opinions on medical and scientific questions carry the greatest weight. Though his lectures at the Charité begin in summer at 7 A. M. and at 8 A. M. in winter, it is not an unusual thing for him to be at the legislative rooms for a night session or on committee work until midnight or later, and yet be ready for his work next day. He is a true type of the great medical scientist. His scientific work has never drawn him away from the great interests of humanity, but on the contrary the reputation and influence gained in science have been used to help on the solution of difficult social questions now so pressing everywhere.

THE course pursued by President Dwight of Yale University in proffering his resignation because he has reached the age of seventy has our hearty approval. He considers that men at seventy are, as a rule, unfitted for the manifold duties that devolve upon a university president. He is himself a striking proof of the fact that there are some notable exceptions to the rule, and that some of the septuagenarians have the vigor to properly apply the immense practical experience with which a long life has furnished them. It is from men like him, however, that the example of laying down the burden at the seventieth year comes with the best grace, and will have the most forceful effect in inviting imitation. Very, very few men are capable of fulfilling responsible university positions whether in administrative or teaching lines after this age has been reached. Too often men continue to occupy them to the serious detriment of the university, making the position of faculty and trustees in the matter a most difficult one. Every step then that tends to the establishment of the custom of voluntary retirement at seventy is a welcome one. American universities have not been so much hampered by difficulties in this matter as have educational institutions abroad, but it is only a question of time until they will be face to face with it, and then a tradition such as President Dwight's example inculcates would be a most precious heritage.

Meantime President Dwight's services are too valuable to be dispensed with, and now that the example of his action will have its force, we sincerely hope that the trustees of the university will succeed in their efforts to retain him as the guiding spirit of the institution or at least have the advantage of his counsel and cooperation until the bicentenary celebration of 1901.

May we join with the many sons of Yale in expressing our best wishes for many years of usefulness for the Patriarchal President, whose living words and far-seeing acts have done so much for a great university and for the cause of education in our country. *Ad Multos Annos!*

OUR London correspondent comments in last week's issue of the MEDICAL NEWS on a typically *fin-de-siècle* exposure that took place recently with regard to the sale of supposedly abortifacient remedies. Some one got hold of the names of the parties who had sent to a certain concern for "Lady Montrose's Miraculous Female Tabules," advertised as an infallible remedy for "delayed menstruation from any cause," etc. Typewritten let-

ters were sent purporting to be "official," announcing to each of the customers of the Montrose concern that legal proceedings had been commenced against them for "the fearful crime of preventing or attempting to prevent birth." Arrest was to follow unless the party would "promise under oath as before God," never, *never* to attempt the crime again and send the writer two guineas for the legal steps necessary to quash the proceedings. The bait took marvelously well in most cases, but before the swindler could land his fish the police, put on the track by some more strong-minded individuals, swooped down on his office. More than 600 letters were captured, each containing the two guineas demanded.

The whole affair is a startling commentary on the character of the advertisements that even respectable journals admit to their columns. Even so-called religious journals are not above it, and some of the confessedly guilty ones in this case admit having sent for the remedy because they saw it advertised in a religious journal.

Meantime, there is a feature of the case that the English medical journals do not touch upon. These letters of confession are in the hands of the authorities. Every one who sent the two guineas evidently confesses that her idea in taking the miraculous tabules was to commit what her correspondent designated as "the fearful crime of preventing or attempting to prevent birth."

This is a felony before the English law. Will the letters be used to prove this and the confessed criminals be brought to justice, or will the police compound a felony and permit the affair to drop out of sight? In other words, does the statute on the English statute-books in this matter legally mean anything or nothing? We are very much interested in knowing the final outcome of the case.

DESERTED CITIES OF THE FUTURE—BOMBAY AND MADRAS.

How serious a matter the present outbreak of bubonic plague in India is considered to be, may be gathered from the above expression which forms the title of the leading editorial in a recent number of the *Indian Medical Record*. Bombay has been in the death-grip of plague since August or September, 1896, and has now entered upon the third epidemic. It is estimated that 398,000 people fled from Bombay during the period beginning October, 1896, and ending February, 1897. Familiarity with the disease has bred among the remaining inhabitants a certain disregard for its dangers and so the exodus upon the outbreak of this last epidemic does not compare in extent with what occurred in the preceding years. It has, however, proven a serious drain upon the city's population. Moreover, the intervals between the epidemics have been so short that many of those who fled before have not dared to venture back.

Behind it all, as the editor of the *Indian Record* says, is the awful insanitary condition of the city. Despite the well-directed efforts of English sanitarians and the expenditure of immense sums of money, extending over a long period of years this condition of affairs has developed: the subsoil water of Bombay has been steadily rising at the rate of about eight inches each year. Eleven years ago it was twelve feet below the surface; this time last year it was only four. Two causes have contributed to this event; first, drainage originally insufficient, and second, the introduction of a plentiful water-supply without proper sewerage facilities for carrying it away. By being allowed to accumulate upon the surface of the ground and saturate the soil, an abundant supply of pure water instead of being an unmixed blessing has proved a veritable curse. The bankrupt condition of the treasury due to the long business stagnation gives no hope of prompt relief from this underground culture-bed of infection which must sooner or later destroy or drive out the last inhabitant.

SODIUM BICARBONATE BY INTRAVENOUS INJECTION AS A PREVENTIVE OF DIABETIC COMA.

OUR esteemed contemporary the *New York Medical Journal*, in a recent issue, gives the principal place in its editorial columns to an article bearing the above title. As the subject is not a new one we may be permitted a few additional comments upon it so as to round up its present status for the benefit of the busy practitioner.

The theory of treating the acid intoxication, supposed to be the cause of diabetic coma, by alkalin infusions into the circulation originated with Stadelmann in Naunyn's clinic at Strasburg, and was first put into practice by Naunyn himself. He seemed

at first to attain some measure of success, and on the strengh of his recommendation the method was thoroughly tried in most of the large European clinics but, almost without exception, unsuccessfully. It was then suggested by the Strasburg school—Naunyn, Minkowsky, Stadelmann—that it was not in the fully developed coma but in its preliminary stages, before the accumulation of acids in the blood and tissues became too great, that alkalin treatment would be serviceable. That was some years ago, but the results have not been encouraging. Eichhorst, in the fourth volume of his "Specielle Pathologie und Therapie," 1897, says: "Certainly, if these infusions have ever done any good in counteracting a supposed acid intoxication they have never been effective for any length of time." Professor Gerhardt, whose reaction is supposed (we say supposed because Van Noorden denies it any significance in the matter) to indicate the presence of the toxic acids in the urine which result from the toxic acidemia, has never seen the alkalin infusions do the slightest good. The subject has been one of special interest to him, yet as reported in our Berlin letter [MEDICAL NEWS, April 4, 1898] he did not think these infusions had ever lengthened life by an hour, or given a single additional moment of consciousness. That this decided opinion would not have been expressed unless the remedy had been tried in all stages of the coma and especially at the beginning of it, any one who knows Professor Gerhardt's thorough clinical methods and his large clinical material will never doubt for a moment.

Professor Van Noorden, in his book on diabetes, published this year, expresses his utter lack of confidence in the alkalin infusions for the relief of any symptoms due to the toxic acidemia. Finally, Professor Naunyn himself, confesses in his book on diabetes in the series, "Specielle Pathologie und Therapie" edited by Nothnagel, June, 1898, that the alkalin infusions have not had the success that the theory of their introduction promised. He even admits that any good effect they may have had was perhaps due to the "exciting influence of the infusion" and cites an old case of Hilton Fagge's in which an *acid* infusion had had precisely the effect claimed for these latter-day alkalin infusions when first introduced.

The *Journal's* editorial is founded on two cases of Lépine, one of which was surely known to Naunyn when he wrote, for Lépine's work in diabetes has for years been along similar lines to that of the Strasburg school, yet he attaches no importance to it. Naunyn himself evidently tried the alkalin infusions at all stages of the coma and has given them up. He now uses large doses, ½ ounce to 1½ ounces of bicarbonate of soda by the mouth or rectum, sometimes with good results. Lépine has added considerably to our knowledge of the functional pathology of diabetes, but has not been fortunate in the recommendation of methods of treatment. He was one of the very few clinicians in Europe, outside of Strasburg, who saw any good come from alkalin infusions given at the height of diabetic coma. His claim of benefit from pilocarpin as a pancreatic stimulant in diabetes was not confirmed by others. It would seem then that no great weight should be attached to his conclusions in the present instance.

ECHOES AND NEWS.

The Sternberg Hospital. — The Sternberg Hospital at Camp Thomas, Chickamauga Park, was closed November 14th. The twenty-eight patients in the hospital were sent to Fort Thomas, Ky., and the medical corps transferred to the hospital at Savannah.

Professor R. H. Crittenden of Yale College. — Professor R. H. Crittenden has been appointed to succeed Professor Geo. J. Brush, who has recently resigned his position as Director of the Sheffeld Scientific School, and accepted an appointment as Professor Emeritus.

A Woman Medical Inspector.—Dr. Mary H. Murray has been appointed by the New York Board of Health medical inspector of the twelve public schools in the third ward of the Borough of Queens, New York City. Dr. Murray is a graduate of the Woman's Medical College of the City of New York, and served as interne in the hospital and dispensary for one year. She is the first woman honored with an appointment on the staff of school inspectors.

Faculty Appointments at the New York Polyclinic.—Dr. Charles H. Chetwood has been promoted from the position of adjunct-professor to Professor of Genito-urinary Surgery. Dr. Chetwood has recently been appointed visiting-surgeon to Bellevue Hospital. Dr. Frederick Whiting has been appointed Professor of Otology, to fill the vacancy caused by the resignation of Professor Sheppard. Dr. Whiting is visiting-surgeon to the New York Eye and Ear Infirmary.

Health of Troops in the Philippines.—The number of cases of sickness reported from Manila for the week ending

November 12th was 1816 as against 1894 the previous week. Of these 124 were typhoid, 608 malaria, 95 dysentery, 184 diarrhea, other intestinal troubles 42, gastric fever 19, wounds and injuries 79, heat 3, smallpox 39, including 6 Spaniards; all other sicknesses 610. The deaths were: typhoid 1, meningitis 2, dysentery 1, purpura hemorrhagica 1, smallpox 1.

Some Observations During Human Cremation.—It has been found that fat people burn more easily than thin, and women who have died in childbirth are most easily cremated, while persons who have died of consumption require more time and more fuel than any other class of cases. These observations were made in Japan, where the fuel used is fire-wood, placed directly in contact with the body. On an average about seventy-five pounds of wood is required for each complete cremation.

A New Weekly Medical Journal.—The *Indian Medical Record*, which originally appeared as a monthly, has been issued for some years every two weeks, and now proposes, if its subscribers will substantially support it in the change, to become a weekly. India has so far had no weekly medical journal; there would seem to be a field for this venture. The *Indian Medical Record* is thoroughly representative of what is best in medicine in the Far East. It deserves the success that its present proposal indicates.

Columbia Medical Students Forbidden to Smoke in the College Buildings.—President Low of the Columbia University has issued an order approved in a meeting of the Faculty of the College of Physicians and Surgeons, prohibiting smoking or spitting about the corridors or in the rooms of the buildings, except in the retiring-room and a designated part of the dissecting-room. The majority of men who smoke expectorate, and as this is now regarded not only as a filthy habit but as one which encourages the spread of disease, the new order will doubtless work a favorable reform in the habits of the medical students.

Antivivisection and Congress.—The scientific societies of Washington have recently held a joint meeting and passed resolutions calling the attention of scientists and the medical profession to the fact that a meeting of the American Humane Society will be held in Washington during December next for the purpose of reviving interest in the Antivivisection Bill now pending in the United States Senate, and urging upon the individual members of the medical profession the importance of personal letters being sent by them to their respective senators and representatives protesting against the bill.

The Health of the Army at Honolulu. — The conflict of authority between the local Board of Health and the Army officers on account of the insanitary condition of the camps has continued, the city authorities threatening to quarantine against the camps unless their condition was corrected. Fortunately, the camps were abandoned to time to prevent serious trouble. General King, who was ordered to conduct his troops from Honolulu to Manila placed them on shipboard but decided to wait three days before starting out, fearing an epidemic might arise during his voyage and compel his return. Later accounts announced that several cases of typhoid fever had occurred on board the ship, and that she had been placed in quarantine.

A Microbe-Proof House at Yokohama.—An eminent German bacteriologist has recently erected at Yokohama a microbe-proof house, built of glass blocks. There are no window sashes and the doors, when closed, are air-tight. The air-supply is forced into the room through a pipe and filtered through cotton wool to cleanse it of bacteria. To insure further sterilization the air is driven against a glycerine-coated plate of glass, which captures all the microbes the wool spares. The few microbes brought into the house in the clothes of visitors soon die in the warm sunlight with which the house is flooded. This affords a constant sunbath during clear days, and is a valuable suggestion to those personally interested in the sanitarian treatment of phthisis.

A Doctor Prosecuted.—The President of the New York Board of Health has preferred charges against a local physician for failure to report a case of diphtheria until after the death of the patient, and requested the corporation counsel to begin suit for $50 damages provided for in the Code. It is also alleged that in the doctor's death certificate the fatal result was ascribed to heart failure following undue exertion, although his letter incidentally stated that his patient had been ill with diphtheria from which he had recovered five days previous. The considerate and just treatment accorded by the Board of Health to cases of contagious diseases should put at rest any fear on the part of the attending physician regarding the consequences of proper notification, and be an incentive to prompt and ingenuous action in accordance with the requirements.

Ablation of the Spleen.—Jonesco of Bucharest read October 25th, before the Paris Academy of Medicine, a paper in which he reported twenty-nine cases of ablation of the spleen, from which he drew the following conclusions: The good results obtained by the ablation of the spleen of patients suffering from malaria confirm the opinion of Laveran, namely, that the spleen instead of being an organ of protection against malaria, is the receptacle of the hematozoa, from which the hematozoa are thrown into the blood. Therefore, to amputate the spleen is to remove the principal seat, if not the only one, of chronic malaria, and cure that disease. Consequently, the removal of the spleen must be performed as early as possible to prevent the formation of adhesions and cachexia, which would make the operation more serious, if not impossible. Leucocythemia in these cases is the only contraindication of the operation.

The Sixth International Otological Congress.—The Sixth International Otological Congress will be held in London, August 8, 9, 10, 11, and 12, 1899. President, Dr. Urban Pritchard, Professor of Otology at King's College, London. The meetings will, by permission, be held at the Examination Hall of the Royal Colleges of Physicians

and Surgeons, Victoria Embankment. The subject chosen for special discussion is "Indications for Opening the Mastoid in Chronic Suppurative Otitis Media." A large and influental British organization committee has been formed, the treasurer being Mr. A. E. Cumberbach, 80 Portland Place, London, W., and the honorary secretary, Mr. Cresswell Baber, 46 Brunswick Square, Brighton. The International Otological Congress, which assembles every four years, met last in Florence, where a very successful gathering was held under the presidency of Professor Grazzi.

Mt. Sinai Hospital.—Since 1872 the Mt. Sinai Hospital, New York, has occupied its present quarters at Sixty-sixth Street and Lexington Avenue. For more than ten years the present structure has proven inadequate to the demands made upon it, and a year ago the directors of the hospital decided to build a new and more modern structure. A site was purchased on Fifth Avenue, embracing the entire square bounded by One Hundredth, One Hundred and First Streets, Madison and Fifth Avenues, with the exception of three city lots. Voluntary subscriptions are sought to defray the cost of the buildings, about $350,000 having been collected up to this time, we are informed. It is proposed to spend twice this sum for the building, which is to be equipped as a modern scientific hospital in the fullest sense of this term. Ground will shortly be broken, and it is expected that the new hospital will be occupied by 1900.

American Fruits Free from Dangerous Infection.—The Agricultural Department at Washington has recently completed a series of experiments which prove the falsity of the claims made by several European governments upon which American fruits have been excluded from their markets. These governments shut out American fruits on the charge that they were infected with what is called the "San José scale." The experiments of the Department of Agriculture have been most minute and careful. Large lots of peaches, pears, and apples infected with the "scale" have been tested by all known methods of commercial drying, sun drying, by evaporation, by using sulphur and without, with the result that each of these processes destroys the life of the "scale." It has also been demonstrated that the "scale" does not destroy the flavor of the fruit, and is perfectly harmless when taken into the human stomach. The presence of the "scale" may be recognized by a very small, dark spot on the fruit, growing in size as the "scale" multiplies.

SPECIAL ARTICLE.

YELLOW FEVER AT SANTIAGO.[1]

SIR:—Pursuant to your instructions of August 20, 1898, to proceed to Santiago de Cuba, for the purpose of testing the serum in suitable cases, both as a curative and as a prophylactic agent, I did so at my earliest opportunity, arriving in that city on August 25th. Consultation with the military officials of our Government in command convinced me that the rumors prevalent in the United States of the malarial character of the prevailing fever at Santiago rather than yellow fever was correct. The officials of the city declared that there was no yellow fever in Santiago; therefore, I refrained from visiting the city hospitals, because of the consumption of time, and the inadvisability of a difference of opinion as to diagnosis in any possible cases seen there. However, the surgeon-in-chief of the military commandant of the province of Santiago assured me of the presence of the disease, as reported to him by his subordinate officers, and gave me *carte blanche* to enter the hospitals at both Siboney and on the island in the bay set apart for the purpose of a yellow-fever camp. Owing to the rapidly progressing discontinuance of the camp at Siboney, I took up my residence at the island hospital. A careful scrutiny of the number of convalescents there, and an inspection of their clinical histories, especially in regard to the pulse and temperature tracings, convinced me that, while there was, in numerous cases, a condition resembling yellow fever, yet the pulse and thermographs did not fulfil the demands as enunciated by J. C. Faget[1]; that, while the pulse-tracings were generally low there was an absence of the typical "want of coordination" seen in an *ascending* or *stationary* fever at its acme, together with a *falling* pulse. There was much food for reflection, and I was finally convinced that in all of these cases, showing an intermitting type of fever, and most of them an enlarged spleen and tender liver, a malarial intoxication was present. Yet could the slow pulse, spongy gums, yellowish (not pronounced) skin and eyes, skin extravasations, depend upon yellow-fever infection? I had reason to question the statement of "albumen in the urine" in some cases, since I was led to doubt the competency of the analyst. A continued study of these facts and of the cases arriving of so-called yellow fever, led me to the conclusion that the *ensemble* of symptoms which had been so freely thus diagnosed was due to a very general condition of incipient, or developing scorbutus, upon which there had become implanted a malarial toxemia. To me this seemed to develop a condition of serious danger but little inferior to yellow fever itself. At no time did I see a case which warranted the use of the curative serum, since the enlarged spleens and other evidences of malarial infection, even if I had accepted the dictum of those in charge of the hospital, would, under Sanarelli's direction, have gone far to negate the results of its use. Under such circumstances I deemed it my duty to acquaint you with the conditions existing, especially since I had before visiting this hospital and examining the patients, reported to you the favorable opportunities to fulfil your wishes in regard to this serum as it was presented to me by the authorities.

In differing from the opinion of the officials of this hospital, I must express my grateful appreciation of their uniform courtesy to me at all times, and of the interest

[1] Special report from advance sheets of the U. S. M. H. S. report upon the effort to test in suitable cases the "serum anti-amarylic," donated to the United States by Professor Sanarelli of the University of Montevideo, Uruguay, with the request that it be tested at the earliest opportunity in suitable cases of yellow fever.

[1] "Monographe sur le type et la specificité, de la Fiévre Jaune," 1875.

there was manifested in the work committed to my charge.

It is but right to say that every official courtesy was extended by Generals Lawton and Wood, and especially by Colonel Havard, the surgeon-in-chief of the military forces occupying the province of Santiago de Cuba.

Respectfully yours,

EUGENE WASDIN,
Surgeon, U. S. M. H. S.

CORRESPONDENCE.

"UNITED STATES HEALTH REPORTS AND CARRIER, M.D."

To the Editor of the MEDICAL NEWS.

MY DEAR SIR:—Your magnificent and refreshing editorial in the MEDICAL NEWS of November 12th upon the sheet bearing the pretentious title "United States Health Reports" and its contents I have read with pleasure. I believe that the profession in general should be particularly grateful to you for your elaborate dissection of the expressions used by the author of said article, and the concise explanation of its true meaning.

Yours truly,
W. STEVENS, M.D.

70 WEST FIFTY-SECOND STREET,
NEW YORK, November 15, 1898.

THE PROPER USE OF OBSTETRIC FORCEPS.

To the Editor of the MEDICAL NEWS:

DEAR SIR:—I have read with great interest the article published in your journal of October 22nd on "The Use of Obstetric Forceps, with Report of Two Cases of Inversion of the Uterus." Many valuable practical points were given by the writer in the use of forceps, and certainly too much cannot be said or written on this very interesting topic. But there are several thoughts expressed by the author of the paper with which many obstetricians will not agree. A few of these are of so much importance that a little time and space can well be afforded them.

The writer says among other things: "Some authors advise the removal of the forceps before the head is delivered and as soon as you can grasp the chin with the index-finger in the rectum, but I prefer to leave the forceps adjusted until the delivery of the head is completed." In preference to the method of introducing the finger into the rectum (a procedure which, to my mind, is never necessary, and which should be for lack of cleanliness carefully avoided) I also would choose to leave the forceps adjusted until the head is born, but is it not better to remove the blades before the birth of the head? I believe that for several reasons the forceps should be removed at the moment when it becomes evident that the labor can be completed without them. In other words, when the vulva and perineum are well on the stretch, when the head between pains recedes but little, and when the head can be lifted up by the hand, pressing upward upon the forehead through the soft parts, the head can be delivered more carefully and with less likelihood of perineal laceration than when the forceps are left in place. Experience is necessary in order to judge with accuracy the precise moment at which the blades can be removed, but to my mind the operator in gaining the knowledge of technic will get better results by removing the blades a little too early than to keep than in place too long. By delaying the removal, he may, and often does, lacerate the perineum, when such rupture could easily have been avoided. If removed too early it will be an easy matter to replace them and advance the head sufficiently to be able again to remove them.

During the latter part of delivery, especially in cases where the pains, in spite of the chloroform, cause rapid advance, the head can be controlled far better with the hands than with the instrument. The blades, too, take up room at the outlet, and there are cases in which the perineum will stretch sufficiently to allow the head to pass, but which will be torn if put further upon the stretch by the additional thickness of the blades. But the chief objection to leaving the forceps applied is that already stated, namely, that the head can be controlled better and a more careful delivery made when the blades have been removed. In primiparæ, this is particularly true and of great importance. During the removal of the blades the head must be controlled by the hand, or at an unexpected moment advance may be rapid enough to complete delivery, not to our satisfaction because of laceration that might have been avoided. In an experience of several hundred forceps cases I have seen a number in which laceration occurred during the few seconds required for the removal of the blades where, by a careful appreciation of the fact that resistance had been almost entirely overcome and that a moderately strong pain would therefore advance the head rapidly, a laceration would have been avoided.

In the treatment of occipitoposterior positions, I must disagree with the writer, who says, "In cases of occipitoposterior position it is always best to refrain from using forceps as it prevents rotation, yet where speedy delivery is required, it is best to apply forceps to the sides of the head, and to imitate the mechanism of normal labor in posterior positions. If the sagittal suture occupies an oblique diameter, the forceps should be applied in the opposite oblique, as the occiput should be rotated into the hollow of the sacrum." The writer then says that the lines of traction are the same as in the ordinary vertex presentation, only the face rotates under the arch. All will agree, I think, that the use of forceps in cases of posterior position should be avoided until it is evident that Nature can accomplish no more, or until the condition of the mother or child requires it. Oftentimes, several hours are required to complete flexion and cause rotation to occur, and, therefore, it is well to give the natural forces time in which to operate, even if action is slow. But, when advance ceases or where, for some reason the welfare of the mother or child demands it, it becomes necessary to use forceps let us imitate the mechanism of normal labor by causing rotation to the front, not into the hollow of the sacrum. The great majority of cases

of occipitoposterior position terminate by rotation and therefore that course must be taken as the normal. Therefore, rotation should be attempted with the forceps, provided of course the head be low down in the pelvis. This is a condition which must be complied with, for rotation in the middle of the pelvic cavity is often difficult and much more dangerous to the soft parts. If the head is still high up, it should be brought well down to the outlet, where flexion can be increased with the forceps, and where there is more room in which to rotate. Having brought the head well down, so as to distend the perineum well, rotation can, as a rule, be easily accomplished, great care being taken that the head be held firmly, that the tips of the blades are not allowed to lacerate the soft parts, and that the fingers of one hand be placed upon the head (to indicate amount of turning) while rotation is performed by the forceps in the other hand. Straight forceps are excellent for such cases, but the forceps with the pelvic curve are safe, provided the operator keeps in mind the direction in which the tips of the blades are moving, and operates slowly and carefully. Failing to succeed in the rotation, the head should be brought still further down and the effort repeated. Careful attempts to rotate should certainly be made, for there is greater danger of rupture of the perineum, should the head be brought though in the posterior position. If in any case the head cannot be made to rotate, delivery, of course, must be made in the posterior position.

One point which must be emphasized is, that after the head has been rotated, it must be held in the anterior position until the uterus has relaxed sufficiently to allow the body to turn also. The amount of rotation should be not more than 90°, for that is sufficient, as a rule, and there is no danger of twisting the child's neck. Nature will aid very greatly in the rotation, provided a little assistance be given at the outset.

It is safer also to apply the forceps for the purpose of rotation in the same manner as for an anterior position, reapplying the blades after the turning is accomplished.

Only expert operators should, I believe, apply forceps in the "inverted" manner spoken of by some authors. In breech-presentations the forceps should be used only in those cases where the delivery of the after-coming head can be slowly and carefully made, and, therefore, in cases where efforts to deliver the head by the ordinary methods have failed. The child being dead the remainder of delivery can be slowly completed, either with the forceps or cephalotribe.

Manual methods of traction aided by expression are far better than instruments for the delivery of the after-coming head, and delay here for the application of forceps would be a dangerous one.

We agree with the writer perfectly when he states that "in the early use of forceps and with proper precautions, they will be hailed as a welcome boon to the woman in labor."

GEORGE L. BRODHEAD, M.D.

60 WEST FIFTY-EIGHTH STREET,
NEW YORK, November 17, 1898.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

WATER-POLLUTION AND ITS PREVENTION BY STATE CONTROL — A POLICE CRUSADE—THE PENNSYLVANIA INSTITUTION FOR TEACHING THE BLIND—CASTOR-OIL POISONING—MEMORIAL SERVICES TO DR. PEPPER—CASES PRESENTED TO THE PATHOLOGICAL SOCIETY — A PHYSICIAN CENSURED—HEALTH-BOARD STATISTICS.

PHILADELPHIA, November 21, 1898.

WHILE City Councils are dawdling over various schemes for the filtration of our water-supply, and the local community continues to sit with folded hands, doing nothing, saying nothing, the State Board of Health is not only arousing public sentiment but taking active steps to overcome the pollution of the various streams of the State. Dr. Benjamin Lee, secretary of the Board, in his annual report declares that the typhoid fever existing in Philadelphia can be directly traced to the pollution of the Schuylkill, and suggests that a law be passed by the next Legislature giving the State Board of Health direct control over all water-supplies and the appointment of wardens whose duty it shall be to patrol the streams and report violations of the law.

The arrest of a fortune-teller, whose supposed revelations of the future had driven her client insane, has started a crusade against this class of individuals, and many "faith-curists," "magnetic-doctors," and the like will probably find themselves within the meshes of the legal net before the rounding up ends. It seems a pity that the law cannot go further and arrest venders of "female regulators," "No. 7 specific," etc., who advertise most brazenly in the newspapers to secure by means of drugs that, which in law, is considered a criminal operation. Perhaps when the millennium comes Mr. Munyon, who is now filling our drug-store windows with a horde of uniformed employees, using atomizers and other nauseating toilet articles before the public, will also fall into the clutches of the police for obtaining money under false pretences.

The Pennsylvania Institution for Teaching the Blind, at Overbrook, will be formally opened next month. The building, which has been in the course of construction for eighteen months, is three-stories high, with a frontage of 300 feet, and two wings extending about 320 feet. Besides this main building there are detached buildings for the hospital, kindergarten, and the residence of the superintendent.

A case which was puzzling for the reason that the cause of death was not discovered until the coroner's inquest occurred this week in a child aged four years. The child was taken suddenly and violently ill, and died within a short time, the father stating his belief that some beans which the child had taken from an uprooted plant in a vacant lot had poisoned her. Upon investigation it was found that the beans were taken from a castor-oil plant, and that they had caused an acute nephritis from their poisonous and irritating action. Several other children in the same neighborhood were made very ill, but no other casualities beyond the one mentioned have been recorded thus far.

On Tuesday evening, November 29th, a meeting will be held in the chapel of the University of Pennsylvania in memory of the late Dr. William Pepper. The arrangements are in the hands of a joint committee representing the University, the American Philosophical Society, the Franklin Institute, the Academy of Natural Sciences, and other city institutions, and representatives of most of these institutions will deliver short addresses. Governor Hastings, as President *ex-officio* of the Board of Trustees of the University, will preside, while Dr. S. Weir Mitchell, on behalf of the Board of Trustees, will make the first address of the evening. Dr. Tyson will deliver an address as representative of the medical faculty, and among others who will speak are Frederick Fraley, W. P. Wilson, John Thomson, Mayor Warwick, General I. J. Wistar, Daniel Baugh, and Hampton L. Carson.

Dr. J. H. Jopson presented specimens of an epithelioma of the penis and an osteosarcoma to the Pathological Society last week. The epitheliomia was removed from a man aged fifty years, and had encircled the meatus, extending up along the spongy body. The osteosarcoma was removed from the right pectoralis major muscle of a boy, and was secondary to an osteosarcoma of the clavicle, which had been removed sixteen months previously.

Drs. George E. de Schweinitz and J. D. Steele presented several tumors of the eye, one of which, a carcinoma of the choroid, was secondary to an operation performed six months previously for removal of the breast for carcinoma.

Dr. J. M. Swan showed a specimen illustrating an anomalous position of the cecum which was situated in the umbilical region. Dr. Hare spoke of the frequency of similar conditions and the importance of their recognition in diagnosis, while Dr. Coplin said malposition of the intestines was very frequent in the insane.

At an inquest held by Deputy Coroner Dugan this week a physician was severely censured for not reporting a case in which there was a decided suspicion of malpractice. A young woman died of peritonitis after having been attended by a medical student on several occasions, and while it was impossible to fix the guilt upon the latter, the coroner said his convictions were decidedly opposed to those of the jury who acquitted him, and he regretted his inability to hold the student for the Grand jury.

The total number of deaths occurring in Philadelphia for the weeking ending November 19th, as reported at the Health Office, was 414, of which 116 occurred in children under five years of age. The total number of new cases of contagious diseases was 227, reported as follows: Diphtheria, 114 cases with 23 deaths; scarlet fever, 17 cases with 2 deaths; typhoid fever, 96 cases with 9 deaths.

For Persistent Diarrhea in Children.—

℞ Argenti nitratis . . . . gr. i
Ac. nitrici dil. . . . . gtt. v
Mucilag. acaciæ } aa . . . ℥ ss.
Syr. aurantii }
M. Sig. One teaspoonful every three or four hours.

OUR LONDON LETTER.

[From Our Special Correspondent.]

THE GROWING USE OF ANTISEPTICS IN ARTICLES OF DIET—MEETING OF THE BRITISH GYNECOLOGICAL SOCIETY—DISCUSSION ON METHODS OF SUTURING AFTER ABDOMINAL SECTION—THE OPEN-BOWEL TREATMENT—A SCHOOL FOR CLINICAL INSTRUCTION IN TROPICAL DISEASES.

LONDON, November 11, 1898.

A GOOD deal of alarm has been awakened here in both medical and lay circles during the past few weeks over the wide and increasing use of aseptics and antiseptics of various sorts in articles of diet under the title of "Food-Preservatives." For obvious reasons they are particularly common in milk and butter and a few days ago Dr. Winter Blyth, health-officer to the Marylebone Vestry (one of the ancient "parish" divisions of London) reported the discovery among some samples of milk he was testing of a lot containing five grains of boracic acid to the pint.

The use of such antiseptics appears to be much more frequent here than in America as yet, for it is a common thing to see a row of these food-preservatives occupying a prominent place in the drug stores, with full directions for use. Boracic and salicylic acids and solutions of formalin seem the chief favorites. Fortunately, most of these are considered comparatively harmless in the amounts which can be used without affecting the taste of the food, but as articles of diet there are grave objections to them, especially as nothing is known of the effects of their continued use. The most serious objection to the custom, however, is that dairymen relying upon them, will come to disregard proper precautions as to cleanliness of milking, of the storing, and of the vessels, and thus permit the contamination of the milk by ptomains, germs, or toxins against which these "parlor antiseptics" are, practically, of course, absolutely inert.

At the last meeting of the British Gynecological Society after the exhibition of specimens recently removed, the discussion of Christopher Martins' paper "Some Moot Points in the After-treatment of Cases of Abdominal Section," adjourned from the previous meeting, was taken up. As the paper had in the mean time been printed and a copy sent to each member, the discussion had a full-bodied, partisan flavor, in the impromptu "discussion-limited-to-ten-minutes" debate but it also had the disadvantage of being rather long. Each member had brought his copy, with the strategetic points of attack marked in pencil, and the result was that the only other paper of the session was, from lack of time, shelved in its turn for discussion at the next meeting. This method certainly increases the sufferings of the writer, but is probably better for the subject. From the opinions expressed well-nigh every point in the after-treatment appeared to be a "moot" one. Martin had advocated single-line sutures of silkworm-gut, McNaughton Jones, and Jessett preferred the triple set, but disagreed as to the peritoneal row, the former using silk, the latter catgut, both regarding ventral hernia or strain after vomiting as less liable to occur after this method. Bantock advocated the

single suture and thought stitch-abscess chiefly due to too tight stitches or including too much tissue in their grip, which McNaughton Jones protested against, blaming the suture materials. Martin permitted the patient to be turned on her side by the nurse after twenty-four hours. Lawrie and McNaughton Jones kept her absolutely at rest on her back for forty-eight to seventy-two hours. Nearly all agreed in strictly limiting the patient to hot water by teaspoonfuls for twenty-four hours, but no mention was made of our method of filling the peritoneal sac or injecting the large bowel with normal salt solution to allay thirst.

Martin advised the routine use of morphin, giving the first dose before the patient was taken off the table. Lawrie objected because he had once lost a case after ¼-grain dose, and was sustained by Jessett, and the President, Dr. Jones, and Dr. Tanners, who protested against routine use.

In the management of the bowels, Jessett gave an enema upon the second day, which Dr. Tanners regarded as dangerous and preferred like Martin himself a calomel purge on the second day if symptoms demanded it, if not on the fourth day. Other speakers advocated magnesium sulphate in teaspoonful doses frequently repeated.

The new paper of the evening by Stanmore Bishop upon "Combined Abdominal and Vaginal Section in Pelvic Surgery," was a description of four cases of pelvic growths and adhesion in which the vaginal route had to be abandoned and the abdomen opened above. He discussed the general problem of the comparative advantages of the two routes, holding that far too much had been claimed for the vaginal operation, which was attended by serious difficulties and risks in a considerable and increasing minority of cases; was also liable to result in hernia and, although involving less immediate shock than the abdominal, was ultimately attended by even greater risks.

Mr. Chamberlain has just announced on behalf of the Colonial Office that a school for clinical instruction in tropical medicine will be opened for the benefit of Colonial medical officers. The Seamen's Hospital at the Albert Docks will be utilized for the school, and it is intended to collect both cases and material from the various colonies. The English authorities have learned by bitter experience as we also have during the past summer that the white man's deadliest foe in the tropics is disease, and disease often of a peculiar nature, in which Northern experience and training, however thorough, may be almost utterly useless. An important feature of the school will be well-equipped laboratories and a permanent commission for the investigation of tropical diseases, which is both more advisable and hopeful now that we are finding out that these "jungle" and "seasonal" fevers are caused not by the climate but by bacteria.

THE PLAGUE AT VIENNA.

[Special Correspondence of the MEDICAL NEWS.]

VIENNA, November 10, 1898.

VIENNA has had another experience with the bubonic plague. By the time this reaches you the general details will have been presented in your columns but the recital of a few of the more technical medical points involved may prove of interest to your readers.

The class in practical bacteriology at the Pathological Institute, of which I am a member, had as man of all work in the laboratory a certain Barisch. Early on Saturday morning, October 21st, he was taken sick with a chill and general symptoms of influenza. Dr. Ghon, the

DR. HERMANN FRANZ MULLER,
Who recently died of the plague at Vienna.

bacteriologist of the General Hospital, examined his sputum for the purpose of obtaining specimens of the influenza bacilli for demonstration to his class. Instead of finding these, however, he discovered what appeared to be attenuated forms of the pest bacillus. Drs. Ghon, Albrecht, and Müller were sent to India last year by the Austrian government for the purpose of studying the plague, the former as bacteriologist, Albrecht as pathologist, and Müller as clinician. Barisch was under the clinical care of Dr. Müller, and to him Dr. Ghon communicated

ALBINA PECHA,
The nurse who died of the plague while in attendance upon Dr. Müller.

his suspicions that the case was one of plague. The clinical appearances, however, were of pneumonia, and there was none of the signs of lymphatic involvement common to plague, so the bacillary diagnosis was not fully heeded. The pest bacillus is a slow-growing organism, and it was not until the following Wednesday, October 25th, that the cultures showed conclusively that the man, who in the meantime had died, had suffered from a genuine case

of the plague. He had grown worse so rapidly that he had been isolated, though still at the General Hospital.

Not long after the death of Barisch Dr. Müller and one of the nurses in attendance were taken ill with the disease. They were promptly taken to the Epidemic Hospital and there isolated, but both died from the infection. Several other persons who had been exposed and were slightly ill were also isolated for the purpose of observation, but only one proved to have the disease, there being three deaths in all from this cause.

Just how the original infection occurred cannot be definitely determined. Upon their return from India Drs. Ghon and Albrecht continued their studies of the disease by means of experiments on animals, a room at the Pathological Institute being set aside for their use. No one except themselves and Barisch was allowed to enter this room. Early in the present year they did a good deal of work along the special line indicated, having many animals infected with the plague, but at the time at which Barisch was infected their investigations had been nearly completed, only a few animals being in the laboratory, and on these experiments were being made to produce immunity. Barisch had been instructed as to the means of avoiding infection, and had been a very efficient and faithful assistant. Dr. Ghon had wished to immunize him, but this he had declined. Whether he finally became infected through some wholly accidental means or not can only be surmised. To support the latter theory there is the testimony of his wife, who says that while he had usually been a temperate man, of late he had been drinking heavily, remaining out late at night, and frequently coming home under the influence of liquor. This of course gives color to the supposition that while not in complete possession of his faculties he may have been careless in handling some of the infected material at the laboratory, and so become inoculated with the germs of the disease.

Cathedral in Vienna.
A thank offering for the staying of the plague.

Vienna has had more than one sad experience with the plague, and so it is not to be wondered at that the people should take alarm that a death should have occurred from this cause in the city, and should have feared that a general epidemic was to take place. Strange as it may seem, political capital was made out of the occurrence also. Barisch died in Professor Nothnagel's clinic. While Nothnagel is not himself a Jew, he has done much to aid the people of this sect at different times, and in more ways than one has shown his sympathy for them in their unfortunate position here in Austria. The antisemetic element made this the occasion for a violent and wholly unreasonable attack upon him, certain members of the present city government, the mayor, and the official press joining to heap contumely upon him. Fortunately, this has had but little effect in lowering him in the opinion of those who know his devotion to scientific medicine. But the occurrence of the plague here has resulted in a sad blow to the Pathological Institute, as all the animals at the Institute have been killed, and among these were many completely and partially immunized against the plague. The Institute was closed at once and all clinical instruction at the General Hospital was discontinued for two weeks. Things have regained their normal tone now, however, and the clinics and laboratory work are going on as usual.

Dr. Müller was an exceedingly brainy man, and though but thirty-two years of age had made an enviable reputation for himself as a diagnostician and teacher. Public subscriptions are being made for a monument to him, and between six and seven hundred dollars has already been collected for this purpose. I enclose a photograph of Dr. Müller, who contracted the disease while in voluntary attendance upon Barisch and whose death must therefore be regarded as a sacrifice to professional duty, and the photograph of the faithful nurse, whose devotion to duty commands the same recognition. It may be interesting also in this connection to present a cut of the cathedral, erected at Vienna as a thank offering for the staying of the plague early in this century.

TRANSACTIONS OF FOREIGN SOCIETIES.

British.

FIBRINOUS RHINITIS AND THE KLEBS-LOEFFLER BACILLUS—TREATMENT OF PERSONS WHO HAVE RECEIVED SEVERE BLOWS IN THE ABDOMEN WITHOUT SIGN OF EXTERNAL INJURY—ADVANTAGES OF VENESECTION IN PNEUMONIA—LUPUS OF THE CHEEK CURED BY X-RAYS.

At a meeting of the Royal Medical and Chirurgical Society, October 25th, Lack read a paper on "Fibrinous and Membranous Rhinitis and Its Relation to Diphtheria." This disease was described by Schuller, in 1871, as a subacute or chronic affection of the nose. It was formerly thought to be distinct from diphtheria, but more recent observers, relying on the results of bacteriologic examination, have claimed that the trouble is simply a mild form of diphtheria. An analysis of thirty-six cases showed the disease to be essentially one of children and

to occur especially in the autumn months. The chief symptoms are nasal obstruction and discharge, with excoriation of the upper lip, attended, sometimes, by sore throat. The affection lasts on the average from six to eight weeks and almost invariably terminates in recovery. Doubtless many cases, on account of the mildness of the symptoms, are never seen at all. Bacteriologic examination was carried out in thirty-three cases and the Klebs-Löffler bacillus was present in every case, sometimes alone, and sometimes mixed with pyogenic cocci, sarcinæ, etc. Its identity was proven by cultures as well as by tests upon animals. Examinations of the surroundings of patients showed that the disease is very contagious and that the bacilli may be found in the throats of healthy people who have been in association with those children. In only one instance could a previous history of diphtheria be found. The conclusion was arrived at that fibrinous rhinitis is a mild variety of diphtheria, the difference in the clinical manifestations apparently depending upon some differences in the Klebs-Löffler bacillus.

MACFADYEN said there were probably several factors in infection: (1) The properties of the bacillus, since the bacilli vary greatly in virulence; (2) the condition of the tissues; (3) the presence and virulence of associated pyogenic organisms, which, by lowering the vitality of the tissues, facilitate the entrance of the diphtheria bacilli.

LISTER had examined the nasal mucus of 125 children. The Klebs-Löffler bacillus was found in thirty-nine of them, ten of whom were free from any nasal discharge whatever. Some of the children were sent home and some were isolated in the hospital, but in no instance did ordinary diphtheria arise from these cases.

GOODALL spoke of the frequency of occurrence of the Klebs-Löffler bacillus in the sore throat of scarlet fever. He had regularly found it in a form of nasal discharge of an obstinate character which sometimes follows scarlet fever. He also called attention to the fact that when a case of true diphtheria gets into a scarlet-fever ward it often follows that none of the scarlet-fever patients contract diphtheria.

At the Medical Society of London, October 24th, SHEILD read a paper on "Four Cases of Abdominal Section for External Injury Not Accompanied by Wound." A boy aged eleven years was run over by a cab and suffered from severe collapse which did not pass off. The abdomen was opened and found to be full of blood from a rent in the mesentery. Another boy was run over by a heavy vehicle and was also in a state of collapse. His abdomen was found filled with blood and the jejunum was torn quite across. End-to-end anastomosis was done, but the patient died of peritonitis. At autopsy an undiscovered tear was found in the duodenum. In a third boy, aged sixteen, the source of the hemorrhage was found to be a rupture in the liver. Iodoform gauze stopped the bleeding easily. A woman, aged sixty, was run over and besides the resulting collapse there was bloody urine. The bladder, however, held boracic solution, and the conclusion was drawn that there was no perforation of that viscus. As the patient grew worse the abdomen was opened and the bladder was found to be badly bruised but not torn through. No other lesion could be found. Pyemic symptoms slowly developed and after death there was found an abscess in the neighborhood of the right kidney, starting from a rent in the posterior wall of the cecum.

In discussing the indications for operation in these cases SHEILD said that the diagnosis of rupture of the kidneys and bladder could usually be definitely made, but that it was often with the greatest difficulty that one could tell whether or not there was serious injury of the intestine, mesentery, spleen, liver, or sympathetic nerves. As a general rule after severe injuries of the abdomen with progressing unfavorable symptoms, exploration is indicated. The mortality of such operations is due to the gravity of the accident and most of the deaths are simply failures to save lives otherwise certainly doomed. It is of the greatest importance that such experiences should be related.

FOWLER mentioned a case in which obliteration of liver dulness had led him to expect a fatal issue in a case which he had diagnosed as perforation of a chronic ulcer. The patient recovered, however, the normal percussion-note of the liver gradually returning.

TURNER mentioned several instances of severe blows upon the abdomen without sign of external injury. He held strongly the view that in grave injury surgical exploration should be resorted to, but he reminded his hearers that in the old days such accidents were not always fatal, even without surgical intervention, as shown by the specimens in many museums of injuries of this character which had healed spontaneously.

BATTLE insisted on the importance of watching cases of abdominal contusion from hour to hour, as serious symptoms sometimes develop suddenly. He had seen one such case in which the patient, a man, after being run over, suffered no pain and was free from anxiety for four days. He then developed fever and in a few hours he was dead. Autopsy showed that there had been a contusion of the small intestine which had caused necrosis and finally perforation of the intestinal wall. The amount of shock affords little evidence as to the severity of the intestinal lesion. Indeed there are no absolutely reliable symptoms for these cases.

SHEILD said that he did not place much reliance upon percussion in abdominal contusion. The tenderness usually precludes careful percussion and even when fluid is present its presence is apt to be masked by distended intestinal coils. The disappearance of hepatic dulness might be due to intestinal distention as well as to free gas in the peritoneal cavity.

BENHAM read a paper on "The Advantages of Venesection in Cases of Acute Pneumonia," the study being based upon nineteen applications of this method of treatment. All of the cases were severe and in several of them life had undoubtedly been saved by the blood-letting. Although venesection affords relief in most cases of acute pneumonia and when performed in moderation never does the least harm, yet, as slight cases recover without this measure it is indispensable only in grave cases. The aim of the reader was to convert a severe

case into a mild one by subduing the overintensity of the morbid processes. Pneumonia is a disease the symptoms of which increase in intensity from day to day till the crisis is reached, and it is possible to check this intensity if it is progressing too rapidly, by blood-letting. A rapidly increasing frequency of the pulse and mental disturbance shown by sleeplessness and wandering are the best indications that venesection is imperatively demanded.

FOWLER said that it is half a century since antiphlogistic theories have been laid aside and that while it is possible that the pendulum has swung too far in the other direction, and while he was willing to admit that venesection could be of service in distention of the right side of the heart, as occurs in chronic bronchitis with emphysema, he was not ready to admit that it was a desirable treatment in pneumonia.

At a meeting of the Liverpool Medical Institution, held October 20th, HOLLAND exhibited a boy, aged ten years, who had suffered from "Lupus of the Right Cheek," which he had treated by the X-ray, eighteen exposures, with the result that the ulcer had entirely healed. The scar was supple three months later and there was no sign of a recurrence. For five years previously the lad had been treated by scarification and cauterization and in many other ways without apparent benefit. He thought the risk of dermatitis from the X-rays has been much exaggerated. He had used it 700 times and had never observed any ill effects from it.

TAYLOR had treated with X-rays two cases of lupus of the face without good result. In a third patient whose lupus was complicated by a corneal ulcer, an inflammation of the eye had been caused by the exposures to the X-rays.

REVIEWS.

THE MEDICAL NEWS VISITING-LIST FOR 1899. Weekly (dated for 30 patients). Monthly (undated for 120 patients per month). Perpetual (undated for 30 patients weekly per year). Perpetual (undated for 60 patients weekly per year. Philadelphia and New York: Lea Brothers & Co., 1898.

THIS well-known Visiting-List barely needs description at our hands. It is issued this year in the same handsome wallet-shaped form as heretofore. The work gives printed data of a valuable and useful kind, such as a table of remedies alphabetically arranged, a table of doses, notes for examination of the urine, poisons and their antidotes, incompatibles, artificial respiration, a diagnostic table of the eruptive fevers, and a full-page plate showing the incisions for the ligation of the various arteries. This Visiting-List embraces features peculiar to itself of decided value, and is issued in styles intended to meet the wants of all practitioners.

A MANUAL OF OTOLOGY. By GORHAM BACON, A. M., M.D., Professor of Otology in Cornell University Medical College, New York. With an Introductory Chapter by CLARENCE J. BLAKE, M.D., Professor of Otology in the Harvard Medical School, Boston. Philadelphia and New York: Lea Brothers & Co., 1898.

WHILE not replacing any of the standard references Dr. Bacon's little book condenses into a convenient guide the essential facts of modern otology. The style is terse and readable and leaves nothing for the student to imagine. Diagnosis and treatment especially are made clear without the omission of important details.

The chapter on mastoid diseases, however, is somewhat disappointing in its brevity and the description of the surgery of mastoid complications is incommensurate with the importance of the subject. The work is freely illustrated.

PATHOLOGY AND MORBID ANATOMY. By T. HENRY GREEN, M.D., Lecturer on Pathology and Morbid Anatomy at Charing-Cross Hospital Medical School, London. New (8th) American, from the eighth and revised English, edition. Philadelphia and New York: Lea Brothers & Co., 1898.

THAT this work should have passed through eight English, and as many American editions, is ample testimony of its continued recognition as a standard text-book. Dr. Walton Martin, who revised this last edition, has effected a noticeable improvement in the arrangement of the subject material. By adopting a different system of classification he has made the text more convenient for reference, and more logical for order of reading. While the work is free from lengthy discussions and from descriptions of experiments due note is made of recently derived data in pathology and of the most modern theories in cytology and bacteriology. The book is handsomely illustrated.

A TEXT-BOOK UPON THE PATHOGENIC BACTERIA. For Students of Medicine and Physicians. By JOSEPH MCFARLAND, M.D., Professor of Pathology in the Medico-Chirurgical College, Philadelphia; Pathologist to the Medico-Chirurgical Hospital and to the Rush Hospital for Consumption and Allied Diseases, Philadelphia. Second Edition, Revised and enlarged. Philadelphia: W. B. Saunders, 1898.

THIS is an admirable book in many respects, and physicians in particular will find much of interest in it. As a text-book for students, however, there is much that could have been omitted. In the preface we are informed that "the work being upon pathogenic bacteria, it does not cover the whole scope of parasitology, and the parasites of higher orders are all omitted. Malaria and amebic dysentery are omitted as logically as tapeworms and pediculi." Still we find several pages describing in detail the disinfection of the hands in surgical procedures and the preparation of ligatures, the disinfection of sick-rooms, the disposal of dejections and sputum, and the care of patients during convalescence from infectious diseases, all of which may be found in any modern work on medicine or surgery and does not logically find a place in the work before us.

The book contains a vast amount of information on the subject of bacteriology and the matter is presented in a

clear and pleasant style. All of the most recent discoveries and works in the field find mention in the present edition, the references to the original sources being of great value. The author describes at length the serum reaction in typhoid fever, giving preference to fresh agar-agar cultures distributed in sterile water to bouillon cultures, and also recommends the use of capillary tubes for the accurate dilution of the blood.

There are so many practical suggestions throughout the book that it cannot but prove of great value to all workers in bacteriology and to those interested we cordially commend it as thoroughly reliable and accurate. The paper, illustrations, and book-making are of the highest order and leave nothing to be desired.

THE ESSENTIALS OF HISTOLOGY, DESCRIPTIVE AND PRACTICAL. For the Use of Students. By E. A. SCHAFER, LL.D., F.R.S., Jodrell Professor of Physiology in University College, London; Editor of the Histological Portion of Quain's "Anatomy." New (fifth) Edition, Revised and enlarged. Philadelphia and New York: Lea Brothers & Co., 1898.

AN extended review of this book, so well known to students, would indeed seem superfluous. In the present edition much has been added, particularly in the chapter on the nervous system, and the whole work has been brought so well up to date that as a text-book for the student it leaves nothing to be desired. The general plan and arrangement are identical with previous editions, the beautifully executed illustrations being especially valuable and instructive.

We have only one suggestion to offer: that in the appendix a more detailed explanation in the technic of preparing histologic specimens would greatly enhance the value of the book. With this exception the work stands at the head of its kind and no student will regret having it in his possession.

THE OHIO STATE MEDICAL SOCIETY. Transactions of the Fifty-third Annual Meeting, held at Columbus, Ohio, May, 1898. Cleveland, Ohio: J. B. Savage Press, 1898.

A HANDSOME portrait of the president, Dr. William H. Humiston, is the frontispiece of this volume. The editor, Dr. P. Max Foshay, has given us a rather unique book, in that the papers read at the meeting are grouped under the respective heads to which they belong. The articles are up to the usual high standard of this society and the volume will be a pleasant memento of what must have been an interesting meeting.

YELLOW FEVER—CLINICAL NOTES. By JUST TONATRE, M.D. (Paris). Translated from the French by CHARLES CHASSAIGNAC, M.D. New Orleans: New Orleans Medical and Surgical Journal, 1898.

THIS book is the result of the author's experience gained in the treatment of more than two thousand yellow-fever patients. It considers the subject chiefly from a clinical standpoint. As such it is very valuable, because the descriptions of this disease in the various text-books are not often based on personal experience. The author calls special attention to Faget's law of divergence between pulse and temperature, and to the same physician's observation of the fall of pulse-rate in this disease. He regards these two symptoms as pathognomonic of yellow fever, yet he says they are very little known, imperfectly observed, and badly appreciated.

Dr. Tonatre considers that the question of temperature in yellow fever regulates everything,—the diagnosis, the prognosis, and the treatment. He is not at all modest in reference to his own skill and knowledge of the disease, and does not hesitate to affirm them whenever he can.

RECORDS OF URINARY EXAMINATIONS. A Convenient Method for Keeping Records of Urinary Examinations for Future Reference in Hospital or General Practice. Arranged by HARRY MORELL, M.D. Hartford: J. B. Burr & Company, 1898.

THIS volume consists of a large number of alternate white and yellow blanks for urinary reports, arranged so that by means of carbon paper, two records can be simultaneously made. The white sheets are detachable, so that a copy of the results of an examination can be given to the sender of the specimen. On each page is a list of the ingredients to be tested for, with space at the side for the filling in of the results. Hippuric acid, creatinin, xanthin bases, and coloring matters need scarcely to have been taken in account, as they are not usually tested for in clinical examinations. Diacetic acid might have been added. Space is provided for an index. The book is bound in oiled cloth so as to be easily cleansed after use in the laboratory.

THERAPEUTIC HINTS.

For the Constipation Accompanying Ovaritis.—

℞ Sodii sulphatis, Sulphuris, Sacchari } aa . . . . . ʒ vi
Spts. menthæ pip. . . . . q.s.

M. Sig. One teaspoonful in a glass of water at bedtime.—*Winternitz.*

For Pertussis.—

℞ Tinct. digitalis . . . . . *m.* xv
Antipyrin . . . . . gr. xxx
Tinct. opii camphoratæ . . . ʒ i
Syr. tolutani . . . . . ʒ ii.

M. Sig. One-half teaspoonful three times a day.—*Koplik.*

For the Dysphagia of Tubercular Laryngitis.—KASSEL claims for this symptom an efficient remedy in an emulsion of one part orthoform in four parts olive oil to be injected directly into the larynx by means of a suitable syringe. Orthoform when thus applied does not provoke the violent fit of coughing which follows insufflation of the drug, and its full analgesic action is therefore gained. After a momentary burning sensation there comes a feeling as of a foreign body in the larynx which marks the beginning of an analgesia lasting often for twenty-four hours. No effect on the lesion is obtained but the secretion of the ulcerated parts is noticeably diminished.

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXXIII. NEW YORK, SATURDAY, DECEMBER 3, 1898. NO. 23.

ORIGINAL ARTICLES.

RESUME OF ONE HUNDRED CASES OF TUBERCULOSIS.

BY HERBERT MAXON KING, M.D.,
OF GRAND RAPIDS, MICH.

THE one hundred cases of tuberculosis from which I gather the following statistics have come under my observation within the past four years, and include all those in which I have kept tabulated histories and notes with a special view to studying the etiology, primary lesion, subsequent distribution of foci, intercurrent complications, prognosis, and causes of death. The immense field thus suggested cannot be discussed within the narrow limits of a brief paper, and I shall confine myself, therefore, to these subjects as they affect these one hundred patients only. The advantage to be gained from considering cases to be reported in groups of one hundred is simply that all figures represent percentages, which for purposes of generalization is obviously a convenience. At the same time, I am fully aware that generalizing from a report of one hundred cases must be done with cautious conservatism, as the number in itself is too small to warrant conclusions in a broad sense.

In studying the etiology I have endeavored (*a*) to ascertain the influence, if any, of heredity, and (*b*) to establish, if possible, a clear history of infection. In the first instance I have been forced to the conclusion that the hereditary element in its strict sense, as a causative factor in tuberculosis, is practically insignificant, and while, no doubt, heredity will continue to pose, in the popular mind at least, as a figure of grave importance for a long time to come, it can in the scientific consideration of the causes of tuberculosis be almost entirely left out of consideration.

In a concise yet exhaustive paper on "Heredity in Phthisis," by J. Edward Squire of the North London Hospital for Consumption and Diseases of the Chest,[1] the author, after most thorough and painstaking inquiries, embracing 1000 families, reaches the following most important result: Percentage of the offspring of *phthisical* parents subsequently becoming tubercular, 33.16; percentage of the offspring of *non-phthisical* parents subsequently becoming tubercular, 23.65; percentage of influence due to parents or percentage heredity, 9.51. He then clearly shows that this small "percentage heredity" can be more than accounted for by the greater risk of exposure to which children of phthisical parents are necessarily subjected. Without giving more space to the valuable statistical information contained in this paper by Dr. Squire, I would suggest its perusal by those who do not agree with me on this point of hereditary influences in tuberculosis.

Looking into the heredity of my one hundred cases I have obtained the following results: The father was tubercular in 11 cases; the mother was tubercular in 19 cases; both parents were tubercular in 2 cases; paternal grandfather in 2 cases; paternal grandmother in 3 cases; maternal grandfather in 1 case; maternal grandmother in 5 cases. In a considerable number nothing was definitely known regarding the grandparents, a fact which, of course, makes the figures given under that head of little value. Leaving out of consideration, therefore, the grandparents, there are twenty-eight cases in which one or both of the parents were tubercular.

In one hundred *non*-tubercular persons investigated, and whose heredity I recorded, I found twenty-six whose parents, one or both, died of tuberculosis. I would not from this alone conclude that twenty-six per cent. of all individuals have tubercular parents, yet I do not believe that this figure would be far from correct in expressing the facts if they were known.

Unprejudiced and thorough investigation which it is quite unnecessary to detail here, has convinced me that tuberculosis is more prevalent among the children of tubercular parents than among those of non-tubercular *only* in so far as is to be fully explained by the additional risk of infection obtaining in the case of the former. In evidence that this risk is considerable, Squire found that while six per cent. more of the *male* offspring of phthisical parents than the male offspring of *non*-phthisical parents developed tuberculosis, in the incidence of the *female* offspring, fourteen per cent. more became tubercular among the daughters of the phthisical than among those of the non-phthisical parents; a difference of eight per cent. in favor of female children, who for obvious reasons are more closely associated with the diseased. Now, if the slight increase in favor of the offspring of tubercular parents were to be accounted for by hereditary influence alone it would affect the

[1] *The American Journal of the Medical Sciences.*

male equally with the female children. I clearly appreciate the additional risks of infection to which children of phthisical parents are subjected, and will agree that the disease may originally be so incepted and remain for years latent in the body, finally at one of the "change epochs" in the life of the individual or following some acute disease to take on progressive activity, often when no other theory than that of heredity seems logically to explain its etiology. But this is not heredity at all, and is nothing more nor less than infection, withal that it is difficult to trace its origin to one's perfect satisfaction. Indeed, I am much inclined to believe that phthisical parents impart to their progeny a certain immunity to the disease, a view which is borne out by observation, of which the following incident is an example: A clergyman and his wife, the latter having borne two children after developing pulmonary tuberculosis, took into their household by adoption the orphan child of a non-tubercular family. After surviving the birth of her last child six years the wife died. Both of her children are living and in excellent health to-day, the younger having passed her twentieth year. The adopted child came under my observation at the age of seventeen years, having developed acute pulmonary tuberculosis, from which she died. Satisfactory conclusions upon this point, however, I am aware, can only be drawn from statistics extending over considerable time and embracing thousands of cases.

In the second instance, *i. e.*, that of establishing a clear history of infection, I have not been so fortunate, although I am inclined to think that a more persistent inquiry, such as I have of late practised, would have been rewarded by more satisfactory results. I have been able to find a clear history of infection in twenty-eight of my cases, while in seventy-two the etiology is more or less obscure, obscure at least in so far as I am unable to demonstrate the source of the infection.

Regarding the matter of age, I believe I have met with no new features: Two occurred under the age of 10 years; 19 occurred between the ages of 10 and 20 years; 38 occurred between the ages of 20 and 30 years; 30 occurred between the ages of 30 and 40 years; 7 occurred between the ages of 40 and 50 years; 1 occurred between the ages of 50 and 60 years; 3 occurred between the ages of 60 and 70 years. The youngest case occurred in a female child of 5 years; the oldest in a male of 67 years. Hippocrates states that pulmonary consumption occurs most frequently between the ages of 18 and 35 years, which I think all recent statistics will bear out, as do mine, except, perhaps, as pertain to the first year of life.

Tuberculosis of the glands, bones, and serous membranes occurs frequently among very young children, as is shown by the researches of Froebelius, Bolz, and others, but I have seen relatively few cases of tuberculosis in the very young.

The immediate and exciting causes of the development of the disease in the majority of my patients where no distinct infection could be traced I have found to be in the order of their frequency, grippe, pneumonia, typhoid fever, pregnancy, or lactation, measles, and subacute and chronic gastro-intestinal disturbances. In many instances the disease has been insidious in its encroachment, with no history of any acute manifestation in its onset. As regards sex, forty-three occurred in males and fifty-seven in females.

The primary lesion in tuberculosis is at times and for obvious reasons a matter of considerable difficulty to determine, and my statistics in this respect are, therefore, necessarily only approximately correct, notwithstanding that all care was exercised at the time of first examination, and whenever autopsy was made at the post-mortem with this point in view. I found that the initial lesion occurred in the upper lobe of the right lung in 47 cases; the upper lobe of the left lung in 36; simultaneously in both apices in 8; the cervical glands in 3; the bronchial glands in 2; the bones of the vertebræ in 1; the mesenteric glands in 1; the right kidney in 1, and in the lower lobe of the right lung in 1. It may be of interest to note here that while thirty-three of my cases have been complicated with laryngeal tuberculosis, I have never been able to satisfy my own mind much less to demonstrate satisfactorily that the disease in the larynx was ever the primary lesion either in these thirty-three cases or any others which have ever come under my observation, and I confess that my experience in this respect has made me very sceptical as to the occurrence of primary laryngeal tuberculosis to any appreciable extent.

In many instances pulmonary tuberculosis progresses to a fatal termination without distribution of tuberculous foci beyond the pleuræ. Such patients die from exhaustion, hemorrhage, or sepsis, and seem to acquire an immunity to the effect of tubercular toxemia. In my experience when subsequent distribution of foci in regions more or less remote from the initial lesion has occurred, the development has been as follows:

Involving the pleura or pericardium or both in 90 cases; the larynx in 33; the cervical or axillary lymphatics in 10; the intestinal canal in 6; the endocardium in 6; the kidneys in 5; the peritoneum in 1; the skin in 1; the mesenteric glands in 2; the tonsils in 1, and the nose and pharynx in 1. In 94

of these cases the tuberculous process at some time during the course of the disease, usually in the beginning, has involved the lungs.

The genito-urinary system, exclusive of the kidneys, has been involved in the tubercular process in two cases, one in a female 12 years of age, in which the bladder, urethra, and vagina were involved (as shown by necropsy), and one in a male between 30 and 40 years of age, in whom the right testicle and inguinal lymphatics became involved, and who is still living after surgical removal of the affected organs.

Of complications in tuberculosis of a non-specific character, the most important in my experience have been lobar pneumonia and acute or chronic diffuse parenchymatous nephritis. Eleven patients have had intercurrent lobar pneumonia, in two of whom, as will be noted below, it was the immediate cause of death. Acute diffuse parenchymatous nephritis complicated two cases, the patients making good recoveries from the complication. Five had chronic diffuse parenchymatous nephritis, which persisted to the fatal termination, although not being the immediate cause of death, except in two cases. Intercurrent attacks of acute bronchitis, laryngitis, and inflammatory affections of the upper air passages have been of frequent occurrence, especially during the winter and spring months. As a rule, they have not been of serious moment, and have been as readily amenable to treatment as though occurring in non-tubercular individuals.

When pyrothorax occurs in tuberculosis it is usually from an infection other than that of the specific bacillus; in the cases in which I have made cultures, streptococci and staphylococci, and in one case pneumococci, have always been found, and I have regarded this complication as a pyogenic wound infection. It has never given me serious trouble in itself as a complication, and only in one instance was it necessary to drain from the outside. I have never seen it occur in tuberculosis except late in the disease, when adhesions already formed kept it walled off until bronchial drainage was established.

Pregnancy complicating tuberculosis becomes a serious matter, and is not as uncommon an occurrence as might be imagined. I shall speak of this more fully under "prognosis." It has complicated four of my cases. Endocardial complications of a non-tubercular type occurring in the course of the disease are, in my experience, usually of septic origin and contribute to the causes of death from exhaustion. It is highly probable that in my two cases complicated by acute nephritis, there was also an endocarditis, but heart signs of pathognomonic nature were unobtainable, and as both patients recovered from the complication and are still alive no autopsy has been made. Mitral lesions, no doubt of inflammatory origin, have complicated two of my cases. One patient has made an apparent recovery from the tubercular lesion; the other has passed from my observation. I have no history of other valvular lesion occurring as a complication in tuberculosis.

Fistulæ in the neighborhood of or connected with the rectum have complicated two of my cases, and have added much to the discomfort in both instances.

I would in this connection like to call attention to two more or less persistent phenomena which I have observed in this disease. They can scarcely be termed complications, but are sufficiently often present to indicate an association with the disease. That most commonly noted, and which has been invariably associated with the more chronic forms of the disease, is the peculiar "clubbing" of the terminal phalanges of both fingers and toes, a condition often noticed also in chronic valvular disease. The fluoroscope shows this to be less an enlargement of the bone than of the nails and soft parts, although the bone is itself somewhat enlarged. This phenomenon must have some connection with that obscure condition described by Pierre Marie as hypertrophic pulmonary osteo-arthropathy.

The other phenomenon mentioned is that very striking pigmentation of the exposed skin surfaces of the body; thirty-one of my patients demonstrated it; description is unnecessary, as all who have seen much of pulmonary tuberculosis will have noticed it. I believe it is regarded as due to deposit in the skin of waste pigments retained in the circulation.

The immediate cause of death in my experience has been somewhat difficult to define in most instances. I use the term "asthenia" for want of a better, but fully appreciate its lack of definition. It is, perhaps, better than "heart failure," although conveying scarcely more significance. The immediate cause of death in 34 cases was asthenia; in 2, hemoptysis; in 2, lobar pneumonia; in 2, uremia; in 1, sepsis, and in 1, acute miliary tuberculosis, making a total of 42 deaths. Since this report was written, however, I have news of the death of one more of these one hundred patients from laryngeal stenosis, a rare, though not unknown, cause of death in tuberculosis.

The average duration of the disease in my fatal cases has been, as nearly as I could discover, something under two years, but this period applies only to the duration of the active progression of the disease. I am convinced that a tuberculous focus in which may be found live bacilli can, and in many apparently acute cases does, exist for many years

without giving its host sufficient discomfort to occasion discovery. In these cases appearances often conceal the true condition of things, and a diagnosis of primary acute tuberculosis is made and borne out by a rapidly fatal termination.

The features which have given me the most reliable data upon which to base a prognosis have been pulse and temperature, degree and rapidity of emaciation, condition of the organs of elimination, and condition of the digestive system. I think I have mentioned them in the order of their importance in a prognostic sense; of course, the locality of the primary lesion and the amount of involvement, together with existing complications, are of primary importance. It has been my experience that a small, compressible pulse persisting above 120 is usually indicative of progressively fatal cases, while a fairly strong pulse remaining below 100 is found in cases amenable to treatment. A temperature reaching 102° to 104° F. once or twice during the day, with remissions or intermissions and profuse diaphoresis, either associated or not with a rapid pulse, has been of unfavorable import with me, and has usually marked the onset of an uncontrollable pyogenic infection. When an acute miliary tuberculosis supervenes upon a chronic condition the temperature wave is not marked by such deep remissions, and there is less diaphoresis, although the temperature may reach much higher points than in the ordinary streptococcic and other pyogenic infections.

Emaciation, which has progressed rapidly to a considerable degree has, in my experience, indicated an unfavorable prognosis, although there have been numerous exceptions to this rule. When the weight ceases to fall and responds to forced alimentation, in the absence of other unfavorable signs I have found improvement more or less constant to follow. On the other hand, I have witnessed a gain in weight of nearly a pound per day in cases which were progressing to fatal termination, but this is exceptional. Acute nephritis, if at all severe and when of an infectious origin, must of necessity be a serious complication, although both of my patients recovered, probably because the affection was localized within narrow limits. The presence of chronic Bright's disease would make the prognosis necessarily fatal, although as to time it shortened life twice, and seemed not to materially do so in the other three cases of mine. The condition of the skin as an eliminative organ is of important significance in prognosis. In one of my cases intercurrent chicken-pox contributed largely to a fatal termination. Diarrhea, on the one hand, and persistent constipation on the other, have complicated unfavorable cases. Depraved digestion, from whatever cause arising, is a serious symptom in a disease in which nutrition is the main therapeutic consideration, and when persistent has materially contributed to an unfavorable termination. regnancy in any stage of tuberculosis has invariably increased the activity of the disease, all but one case having terminated fatally within a few months of parturition, but my patients became pregnant in the latter stages of the disease. I have no statistics on pregnancy in early tubercular disease. Mitral disease has appeared in my two cases to have had a beneficial effect upon the tubercular process, which I believe is the rule.

The amount of expectoration and the number of tubercle bacilli present therein has, within reasonable limits, no prognostic significance whatever. Sputum from a very favorable case is often found to contain innumerable bacilli in every field, while some of the most vicious cases in my experience have produced very little expectoration and only few bacilli, sometimes necessitating a long hunt to find them at all. The presence of bacilli serves to clear up the diagnosis beyond all doubt, but the number found has little significance in prognosis. Likewise examinations of the blood made at stated intervals have given me no reliable data upon which to form a prognosis. It has lately been demonstrated that Ehrlich's diazo reaction in urine, when obtained in tuberculosis, indicates almost invariably a rapid and fatal course of the disease, a rule which applies to any stage of tuberculosis.

Primary development or secondary extension of tuberculosis into the left lung, especially into the lower lobe, has been followed by more rapidly fatal results, and left pulmonary tuberculosis has been less amenable to treatment than when the right side has been affected, other things being equal. Primary infection occurring after the sixtieth year has been rapidly fatal, and very little influenced by treatment, but when a reinfection occurs at an advanced age from an old latent focus I have found a tendency to self-limitation quite marked, a fact which is contradistinct from the tendency in early life, when the reinfection or auto-infection arising from a diseased lymph-gland or joint is usually rapidly fatal.

That immunity to tubercular toxemia may be acquired by some individuals I have seen demonstrated in many instances, a very unstable immunity, however, which any intercurrent complication may destroy. In one instance coming under my observation several years ago, and which is not included in the above group, a man fifty years of age had had pulmonary tuberculosis for thirty years. Bacilli were demonstrated in the sputum as soon as Koch's methods of demonstration were practised in

this country. After the first year of the disease he appeared to regain a normal standard of health, which continues to the present time, notwithstanding that there is an area of dulness over the upper lobe of one lung and bacilli are still to be found in the sputum. Such immunity, however, is exceedingly rare, although I believe it would be more often obtained if other pathogenic infection could be excluded.

EXTERNAL ESOPHAGOTOMY FOR IMPACTED FOREIGN BODY IN THE ESOPHAGUS, LOCATED BY THE X-RAY.[1]

BY JOHN C. McCOY, M.D.,
OF PATERSON, N. J.

SINCE Goursald, in 1783, first removed by external incision an impacted body from the esophagus, the operation has been performed upward of 175 times, most of the subjects having been operated upon during the last fifteen years. Bones, artificial teeth, and coins constitute the majority of impacted bodies calling for operative interference. In the entire number of patients operated upon up to the present time the mortality has been twenty-two per cent. This includes those cases in which the impaction has been of long standing, as in Dr. Furner's case, in which he removed by an incision in the posterior wall of the esophagus a dental plate which had been lodged there for nearly five years, and those cases in which the impaction has been of but a few hours' duration. The mortality during the period of aseptic surgery has been lowest in those cases in which there has been an early operation, in which patients the tissues have not been contused and lacerated by frequent and prolonged efforts to dislodge the body by means of the various esophageal instruments, and has been highest in those cases where some time has been allowed to elapse between the impaction of the foreign body and its removal.

After having looked over the literature of the subject I am inclined to believe that in many of the cases better results might possibly have been obtained had the operation been resorted to at an early hour after the impaction had become complete, rather than wait a considerable length of time and then operate when the tissues are partially devitalized and the field of operation perhaps infected. When one is sure that the impaction has become complete the rule should be to operate at once. Nothing is to be gained by procrastinating, as under proper conditions the operation is not difficult and the results are most gratifying.

The case which it is my privilege to report occurred in the practice of Dr. W. K. Newton of Paterson, N. J. The history is as follows:

On May 1, 1897, C. D., male, aged seven years, was suddenly seized with severe retching and coughing. His mother upon questioning the boy learned that he had swallowed a small tin whistle with which he had been playing. Dr. Newton saw the child two hours after the accident occurred, at which time he was suffering from rather marked dyspnea and absolute inability to swallow even water. At 8 P.M., four hours after the accident, the dyspnea had become more marked. There was slight cyanosis, the respirations being labored and rapid. Edema was present under the eyes, and there was complete inability to swallow. The tongue was somewhat swollen and the pharynx markedly congested. Palpation elicited a slight bulging in the median line of the throat about an inch above the sternal notch.

Appreciating the shape of the foreign body the patient was placed under complete chloroform narcosis and a long coin-catcher was passed down the esophagus. The impact of the instrument against the metallic body could be readily felt, and after some little effort it gripped the body firmly, but slipped off when traction was made upon it and no further hold could be obtained. After this manipulation the prominence which had been felt just above the sternum could no longer be distinguished. The breathing at this time became much less labored and in a short time the child was able to swallow liquids, although with considerable difficulty.

Thinking that the whistle, which had been lodged at right angles to the esophagus, was now located parallel to it (it having been tilted into this position by the coin-catcher), which fact would account for the disappearance of the dyspnea, owing to the pressure being taken off the trachea, and to his ability to swallow, on account of the lumen of the esophagus not being entirely occluded, a basket-shaped catcher was made of medium-sized copper wire and an endeavor was made to pass this beyond the foreign body, hoping to engage it as the instrument was withdrawn. All efforts to reach the body were unsuccessful, and owing to the congested and swollen condition of the pharynx, further manipulation was discontinued.

The following morning, the breathing being somewhat impaired and dysphagia rather marked, although the child was able, with some little effort, to swallow milk and egg, there was a feeling of uncertainty as to whether the foreign body might not have been pushed on into the stomach and the dysphagia the result of our efforts of the preceding night to dislodge it. That afternoon an X-ray exposure was made from the chin to the umbilicus, and it distinctly showed the whistle lodged transversely in the median line of the neck about an inch above the sternal notch The boy was transferred to the private ward of the hospital, and at 10 o'clock the following day, forty-one hours after the impaction of the body, was operated upon.

An incision was made from the lower border of the cricoid cartilage to the upper margin of the

[1] Read before the Medical Society of New Jersey, at Asbury Park, N. J., June 29, 1898.

sternum, extending along the anterior border of the left sternomastoid muscle. The muscle was drawn to one side, the sternal attachment of the sternomastoid divided so as to afford more room, and the dissection was then carried down to the large vessels which in their sheath were drawn outward by a short retractor. The trachea and thyroid glands were drawn down inward by a second retractor. The esophagus, with the recurrent laryngeal nerve lying upon it, was next exposed. The esophagus with the adjacent tissues both above and below the foreign body were considerably swollen and congested, and at the side where the whistle was in contact with the esophageal wall the tissues were decidedly thinned, showing the utter futility and great danger which would have resulted from an endeavor either to draw the body up or to force it down. In either case the esophagus could have hardly escaped rupture and the tissues contusion and laceration.

An incision an inch long was next made on the anterior surface of the esophagus a trifle to the left of the median line and directly over the foreign body. A fine silk ligature was then passed through the edges of the esophageal wall in order that the wound might be held open. Then a tenaculum was introduced into the small opening of the whistle, and the whistle rotated until it assumed an anteroposterior direction and was then readily withdrawn. The tissues were then thoroughly cleansed with boracic-acid solution, the wound in the esophageal wall closed with interrupted sutures of fine catgut placed closely together, and the superficial wound closed with interrupted sutures of silk. Small pads of iodoform gauze were placed over the wound and a bandage applied snugly about the neck so as to exert considerable pressure over the wound in order that counter-pressure might be exerted during the act of swallowing. There was only slight shock and absolutely no nausea or vomiting following the operation. Small portions of sterilized water were administered as soon as the patient was able to swallow and continued at intervals of every half hour to an hour. At the end of twenty-four hours sterilized milk was administered, and after each feeding a few sips of sterilized water were given in order that the esophagus might be thoroughly cleansed. A small opening appeared in the lower angle of the wound on the third day, and when the patient swallowed a portion of the fluid found its way through this opening. Firm pressure upon the wound when the patient was taking nourishment remedied this entirely. The fistulous tract closed in seven days, and on the sixteenth day the patient left the hospital. He was able to take solid food and was apparently in good health. At no time after the operation did he have a temperature above 99° F.

In the light of this case I would draw the following conclusions:

FIG. 1.

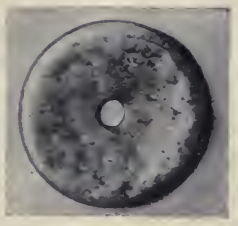
Skiagraph of small tin whistle lodged in the esophagus of a child aged seven years. Removed by external esophagotomy.

1. A foreign body impacted in the esophagus for more than twelve hours, particularly if it be known to have edges liable to inflict injury upon the tissues if traction be made upon it, should be removed at once by external incision.

2. The prolonged and continued use of the various esophageal instruments should be condemned, as the tissues are usually contused and lacerated by their use and their vitality and resisting powers lowered.

3. When the tissues have not been lacerated and the impaction has not been of long duration,

FIG. 2.



Tin whistle removed by external esophagotomy. (Exact size.)

the tissues appearing healthy, the esophagus should be closed with fine catgut and the external wound closed completely.

4. It is better to give small portions of sterilized water at an early hour after the operation in order that the esophagus may be kept as clean as possible. Feeding by tube or per rectum is usually uncalled for. At the end of twenty-four hours liquid nourishment may be given, and after each feeding a few sips of sterilized water should be administered so that the esophagus may be again cleansed.

*THE GONOCOCCUS.**

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SIX years after the discovery of the gonococcus by Neisser, Bumm, in 1885, succeeded in cultivating this organism artificially, and these pure cultures inoculated into the human urethra called forth typical cases of gonorrhea. The gonococcus is a strict parasite and until quite recently its cultivation artificially was attended by considerable difficulty. It refused absolutely to develop on the ordinary media and demanded that the whole, or at least a part of its nourishment, should be human blood-serum. Bumm's first cultures were obtained by inoculating gonorrheal pus on solidified human blood-serum obtained from the placenta; but Bumm's method did not permit of the isolation of the gonococcus except in a very imperfect manner as his medium was solid, thus very frequently allowing other micro-organisms present to grow so rapidly as to prevent the development of the gonococcus. So much was this true that he did not believe it possible to cultivate the gonococcus from pus obtained from the genital organs of the female as the other numerous organisms present would outclass it. It was then that Wertheim[1] came forward with his plan of cultivating this organism by means of the plate method, thus permitting of the isolation of the gonococcus even when numerous other organisms were present.

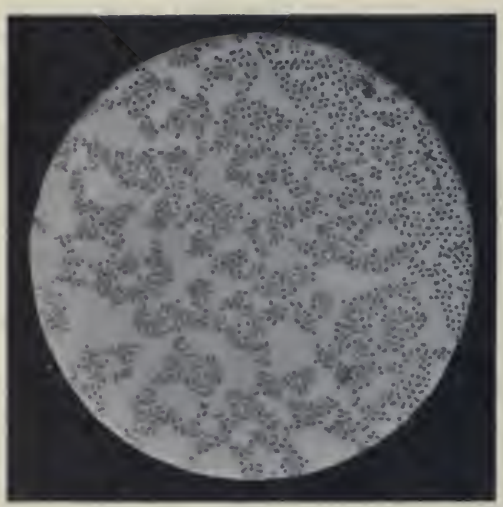
Wertheim's method consists in inoculating sterile liquid human blood-serum (original, first, and second dilutions) with the material to be examined. The same amount of ordinary agar is then added to each tube, the contents being carefully mixed and then plated. Wertheim's experiments have passed down as classics in the history of this organism and he gives in detail the results obtained by the inoculation of five different human urethras with pure cultures obtained by his method[2]. The cases left nothing wanting from a clinical standpoint, a period of incubation for two days or longer, abundant purulent discharge containing typical gonococci, and lasting in no case less than four weeks and in one case more than two months.

Bockhart substituted with success for serum thus obtained the exudate of a pericarditis. Other of the pathologic sera have been successfully used, as hydrocele fluid, pleuritic and ascitic effusions, the latter, according to Sée, being the best adapted of all the sera, not the least of its advantages being the ease and the great quantities in which it may be obtained.

It had been attempted by different observers to substitute for human serum that obtained from the lower animals, but with little success until Wasserman[3] introduced the use of hog-serum into the technic. As the pure culture which is here shown was obtained by Wasserman's method it may be well to state it briefly in detail. Fifteen c. c. of hog-serum, diluted with from 30 to 35 c. c. of water, is placed in an Erlenmeyer flask. Two to 3 c. c. of glycerin, and .8 grm. (2 per cent.) of nutrose is then added. This last preparation was introduced into commerce by Salkowski under the above name and is a sodium-casein phosphate and among other things has the property of preventing serum from solidifying when heated over a flame. The mixture is then cooked over a flame for from 20 to 30 minutes. When ready for use it is mixed with equal parts of ordinary two-per-cent agar. The mixing must take place at between 50° and 60° C. and not at boiling temperature. By this method I have suc-

* Read before the Denver and Arapahoe Medical Society, October 11, 1898.

ceeded in cultivating the gonococcus without difficulty, although with the above dilutions of the serum it was not found that the serum coagulated either with or without the addition of the nutrose. The developing colonies correspond very closely to those described by Wertheim, especially the superficial ones. These show a slight, compact, central portion, from which extends a slender, transparent, and uniform zone of slight dimensions. The majority of the colonies are in the depth of the medium and are compact and of a round, oval, or irregular form. In "fishing" a colony to examine on the cover-glass the forms are not seen so well as by making an impression preparation. In the impression preparation the forms can be observed well differentiated,



Gonococcus, pure culture, by Wasserman's method. (Zeiss homo. immer., 1–12, prog. ocular No. 4.)

showing the characteristic morphology of the gonococcus with the unstained central slit. Of course, these colonies lose their stain completely when treated by the Gram method.

It is not to be supposed, however, that the practising physician will undertake the cultivation of this micro-organism as it is beyond the reach of one not supplied with proper laboratory equipments and training, but as it may with almost absolute certainty be differentiated by aid of the microscope, with proper methods of staining, the difficulty in cultivation has not interfered with its usefulness as an aid in clinical diagnosis.

Unstained gonorrheal pus under the microscope gives an interesting picture. Scattered throughout the field may be seen refractive bodies grouped in couples, true diplococci. Some of these bodies may be seen in motion, and the motion most frequently to be observed is a rotary one in which the cocci often unquestionably change their position so that the motion cannot properly be regarded as Brownian or molecular, as it was by Bockhart, but is a representation of the vital activity of the organism.

The finer structures of this micro-organism are best revealed by a stain of delicate selecting power, such as Löffler's methylen-blue. The gonococcus is seen to be composed of two symmetrical bodies uniformly rounded on their dorsal surfaces and having their flattened surfaces facing each other and separated by a slight uncolored slit or fissure. According to Neisser and Bumm division takes place perpendicularly to the median slit, giving rise to groups of four and even eight cocci. These sarcinæ forms are most abundant and may be best observed in young, actively growing cultures. This mode of multiplication gives rise to a characteristic grouping of the gonococcus differing from the staphylococci grouping and yet difficult to describe. This grouping, the *amas* of the French, constitutes one of the recognized characteristics in the identification of this organism.

Another of the characteristics of the gonococcus is its situation within the pus-cells. Whether this is due to the active penetration of the cell by the gonococci, or whether the white cells incorporate the gonococci by virtue of their phagocytic action is still a question. The fact remains the same, however, in most if not all of the cases, that in the end the cell is vanquished by the gonococci, which multiply within its substance until they cause its disintegration. One meets with these disrupted cells quite frequently. Often only the fragment of a nucleus is visible, around which may be seen the gonococci with their characteristic grouping, occupying a rounded space, and no sign of the cell itself visible.

The most important characteristic of the gonococcus is that it decolorizes when treated by the Gram method, and this is so important that the technic may be mentioned in detail. The preparation, dried and fixed in the usual manner, is immersed a few seconds in Ehrlich's anilin-water gentian-violet solution, prepared by adding 100 c. c. of anilin-water (5 c. c. of anilin-oil to 100 c. c. of water), after being filtered, to 11 c. c. of a solution of gentian violet. The coloration of the specimen is instantaneous. Then, without washing, the surplus stain is drained off and the cover-glass immersed about half a minute in a solution containing 1 part of iodin, 2 parts of iodid of potassium, and 300 parts of water. It is then washed in two baths of absolute alcohol until no more blue color is given off.

This last step, with thin, evenly spread cover-

glasses, takes from one to one and a half minutes. The gonococci in the preparation are absolutely decolorized, while the pus-cocci and other diplococci retain their stain. This is a very valuable and practical method of differentiating the gonococcus from other organisms which may resemble it. The Gram method does not give as pretty a picture as the Löffler stain on account of the unavoidable sediment it leaves in the preparation, but accuracy in diagnosis is what should be sought for. It is convenient to divide the above procedure into two steps, the slide first being examined stained only with the gentian violet. This reveals the gonococci, if they are present, with their typical morphology, only they appear thicker and plumper than with Löffler's stain. If such diplococci are found to be present the slip is then placed in the iodin mixture and afterward in absolute alcohol. On reexamination, if the organisms first observed were gonococci, they will be found to have given up their stain to the alcohol; if they remain stained they positively are not gonococci.

Except in acute cases of very recent origin I do not believe one is ever justified in making a diagnosis of gonorrhea by the Löffler-stain method alone. In chronic cases the Gram method should never be neglected. The question becomes a very serious one when a patient, having had gonorrhea, it may be many months previously, presents himself for an opinion as to whether or not he may marry. In such chronic cases it is often possible to observe the pus-cocci embedded in the pus-cells in such a manner that if regarded from the standpoint of their morphology alone they would be considered gonococci, but when tested by the Gram method they remain as darkly stained as before the iodin and alcohol solutions were added. In chronic cases not only should the gonorrheal threads in the morning urine be examined, but also the suggestion of Heim's is a good one, namely, to centrifuge the urine and examine the sediment. One occasionally finds a few pus-cells containing typical gonococci by this method when they escape observation by the other method, that is, in examining the threads alone.

To sum up the diagnosis of the gonococcus by the microscopical examination, then, we have the following: (1) Diplococci about one micromillimeter in size, of a coffee-bean shape, and situated in characteristic grouping. (2) The intercellular position. (3) The complete decolorization by the Gram method. No one of these characteristics taken alone is a sufficient guarantee for considering a given organism as the gonococcus, but together they give as nearly absolute a criterion as is possible without the culture and the reinoculation of a healthy urethra.

None of the above divisions has remained free from criticism. The characteristic grouping has remained the least so, for as has been so strongly insisted upon by Sée[4] it is scarcely to be found with any other organism. With reference to the intercellular position there are, of course, other cocci to be found within pus-cells which are not gonococci, but almost without exception they retain their color when treated by the Gram method. In a criticism of the Gram method Hogge[5] states that he regards the method as unreliable, for by varying the time of the staining and the decolorization one obtains varying and untrustworthy results. But this objection should have little weight as by varying the time with the ordinary solutions for staining the tubercle bacillus one may also obtain uncertain results, as for example, too short a straining with the carbol-fuchsin and too long an exposure to the acid methylen-blue, yet by a proper timing of those two stains the results are absolutely trustworthy.

Perhaps the most serious objections that have been raised to the Gram method are those by V. Hibler[6]. He found that by subjecting fresh gonorrheal pus to "secondary changes," such as desiccation under certain conditions, the gonococcus at times gave up its stain and at other times retained it. He also ascertained that by placing such pus in urine for from ten to twenty hours the reaction was also uncertain and, according to him, unreliable. But as Sée justly remarks, whatever may be true of the gonococcus when placed under such unnatural conditions with reference to the Gram method, the incontestable fact remains that when taken in its natural and unaltered condition the gonococci in gonorrheal pus will always give up their stain when properly treated by the Gram method. Hibler also found that under certain unnatural conditions the staphylococcus pyogenes aureus would give up its stain when treated with the iodin solution and alcohol, but the same objection to his methods and observations would also apply here. Lastly it must be mentioned that Bumm records that forms have been found in the healthy urethra that morphologically resemble the gonococcus and yet gave up their stain to the alcohol. These exceptions are so extremely rare, however, and have so seldom been met with by other observers that they should have but little, if any, influence in deciding a diagnosis.

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CLINICAL MEMORANDA.

THE PRACTICAL TREATMENT OF SCALDS AND BURNS.

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CASE I.—Girl, aged sixteen years; burned on the back extensively. She was treated with dry dressings, bismuth subnitrate being used. After a few weeks she died, just before death having symptoms of bismuth poisoning.

CASES II. and III. were severe burns from lightning. The patients were first treated with dry dressings, and the mere dressing of the burns caused so much pain that one screamed with fright when she saw me coming. Unguentine was substituted and both patients made a rapid recovery.

CASE IV.—Frank W., aged twenty-five years, single, on December 28, 1895, while engaged in raking salt from a vat made a misstep and fell backward into the scalding brine, striking on the buttocks, one arm and side of legs, all of which were immersed, together with both wrists, and the lower half of the back and abdomen. He was quickly removed and his clothing cut from him, and was then wrapped in a blanket. Upon my arrival I found him in great agony. I gave a hypodermic injection of morphin to quiet pain, and strychnin and digitalis internally, and applied heat externally to counteract shock. I dressed the scalded area with soft muslin saturated with carbolized linseed oil and lime-water. After six hours the dressings were removed and the blisters evacuated, the latter having formed extensively wherever the skin had been scalded. The scalds were again dressed as before, and morphin, cardiac stimulants, and diuretics were given. The patient's temperature was 102° F., and his pulse 120. He was very restless and delirious at night. These symptoms continued for nearly ten days, then gradually subsided. The dressings were changed three or four times a day, and during the interval were kept moist with the oil solution. The removal of the dressings caused a great deal of pain. They were very offensive. The oil was used so extensively that it soiled the bedding and furniture beyond repair. On the tenth day the oil dressings were exchanged for unguentine, spread on narrow strips of muslin. The patient experienced great relief and the wounds were dressed much more quickly and easily. It was found that the dressings did not get dry and hard. The sloughing which had been present ceased and also the odor. The unguentine acted speedily and effectually, restoring the destroyed tissues, and in places where granulation tissue had appeared it cauterized and healed simultaneously. The patient made an uneventful recovery at the end of thirty days and has been free from the complications attending other methods of treating burns and scalds.

Some of the advantages of unguentine as an ideal dressing may be summarized as follows: (1) Easy to apply. (2) Great relief to patient, acting as a sedative, cooling, and non-irritating. (3) It does not dry out so quickly, and consequently the dressings do not have to be changed so often. (4) Rapid cicatrization. (5) When used early it prevents formation of granulation tissue. (6) It is non-toxic. (7) Patients recover more quickly under the unguentine treatment than any other. (8) Prevents the necessity of skin-grafting in a good many cases by hastening the reparative process. (9) It is much more convenient, neat, and practicable.

ACUTE PULMONARY EDEMA SUCCESSFULLY TREATED BY VENESECTION.

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IN most of the articles on acute pulmonary edema venesection is spoken of as a proper treatment, though often with too little emphasis. Since practical illustrations of this truth are infrequent, the following case may be of interest:

Mrs. H. E. C., aged twenty-five years, of Cripple Creek, was referred to me by Dr. B. F. Cunningham for heart disease. She first consulted me at my office on October 6, 1898. There was a history of inflammatory rheumatism at the ages of five, eleven, and eighteen years, of dyspnea on exertion during the previous three months, and during one month moderate swelling about the feet and ankles. Two or three recent attacks of fainting with dizziness and cardiac weakness had led her physician to advise immediate removal to a lower altitude.

On physical examination I found the patient rather enemic and poorly nourished, her weight being about 105 pounds. There was slight edema about the ankles and shin-bones. There was no cyanosis, and no dyspnea was perceptible at the time of examination. The lungs were negative. The heart was very considerably enlarged, the apex being 2 inches outside the mamillary line, and the right border 1½ inches to the right of the median line. Its action was regular, though somewhat exaggerated. At the apex was a marked thrill. Auscultation disclosed a diastolic blowing souffle at the base, heard loudest in the third space close to the left sternal margin, where it quite replaced the second sound. Over both the aortic and pulmonic valves the second sound was quite clear, and over the latter it was accentuated. At the apex there was a double souffle—one plainly systolic, blowing in quality, and replacing the first sound, and another also blowing in quality and occupying the latter half of diastole. It seemed that the latter was probably stenotic, although it lacked the usual rough quality of this murmur. The liver was slightly enlarged downward on percussion, but its edge was thin and not palpable. The urine was non-albuminous, and further examination of the abdominal organs was negative. The diagnosis was, therefore, chronic rheumatic endocarditis of both mitral and aortic orifices, mitral stenosis

and regurgitation, aortic regurgitation, and dilatation of both right and left heart with beginning failure of compensation.

Ten drops of tincture of digitalis three times daily was prescribed and careful directions were given as to exercise and diet. On October 22nd, sixteen days later, I was hastily summoned by the report that she was dangerously ill from sudden "heart failure." I learned that in the meantime she had felt better, gone back to Cripple Creek, had another spell there of heart weakness and fainting, returned immediately to Denver, and apparently continued to improve until this present attack which had followed immediately upon a walk of several blocks. I reached her at 8.30 P.M., about an hour after the attack began. She was sitting propped up in a chair, with head drooping and marked cyanosis of the lips and fingers, breathing with moderate difficulty, and constantly passing a large quantity of white frothy sputum. The pulse was very rapid—I should say 140—with irregularity, rather hard but empty. The edema of the feet noted at the first examination had disappeared. On listening to the heart, its action was found to be so tumultuous that the movements were hard to distinguish. The lungs were choked with coarse and fine moist râles throughout the lower two-thirds at the back, both sides, and the lower third in front. The rate of respirations was only about 30; but it was evident that there was quite a considerable degree of "air hunger," and the patient was continually complaining that she could not get her breath. One-fourth of a grain of strychnin had been given by another physician before my arrival, and I immediately injected 1-30 of a grain more. I gave, as soon as possible, about 7 grains of camphor hypodermically in the form of a ten-per-cent. solution in olive oil. Two drops of a one-per-cent. solution of nitroglycerin was administered, in the hope of easing the left heart. In spite of these measures the patient grew steadily worse. At 10 o'clock the cyanosis had increased, the breathing was more labored, and the complaints, "I can't breathe," "If I could only get my breath," were more constant and pitiful. The pulse had become more rapid, and râles could now be heard even in the upper part of both lungs. Cough was almost continuous, and the sputum, the quantity of which was enormous, was now stained with blood. The cerebrum also began to show signs of intoxication and the patient complained that the room looked dark and that her vision was indistinct. It was quite evident that the case was moving in the direction of a fatal termination.

It seemed to me, therefore, that the only possible means of relieving the pulmonary stasis was venesection. The left ventricle had evidently faltered in its task of compensating a double valvular lesion, and powerful cardiac stimulants had failed to impart sufficient vigor to affect a destruction of equilibrium. Oxygen would undoubtedly have given some temporary relief, but could have had no effect on the underlying mechanical condition. Active catharsis might have depleted in time, but here there was evidently no time to spare. The only possible recourse appeared to be the direct removal of venous blood, although the subject was already enemic, and far from the robust condition generally associated with the thought of venesection.

I asked Dr. J. N. Hall of this city to see the patient with me, requesting him to bring a lancet and bandage. Since his opinion accorded perfectly with my own as to the advisability of venesection I proceeded to overcome the objections of certain members of the family, who insisted that "it would be sure to kill her," and removed twelve ounces of blood from the right median cephalic. The result was remarkable and almost instantaneous. It is true, the first effect was a pronounced feeling of faintness, but this was soon overcome by the recumbent posture, and in a few moments the patient affirmed that she could breathe much easier. And indeed no such statement was necessary in order to assure us that there was, at least temporarily, a wonderful improvement. The cyanosis of the lips had nearly disappeared, the cough and abundant expectoration had ceased, the respiration was slower and less shallow, and the pulse, which was now softer and fuller, had fallen to 108. The heart had evidently been greatly relieved.

Venesection was performed at about 11 P.M. Soon afterward, in order to assist still further in maintaining the pulmonary depletion, I applied two large dry cups to the back. Fifteen minims of tincture of digitalis were also injected subcutaneously to guard against recurrence. At 1 A.M., although the patient was quite comfortable and breathing easily, 1-12 of a grain of morphin was injected with the thought that such a dose would possibly add to the increasing comfort and act, if at all, as an additional cardiac stimulant. By 2 A.M. improvement was even more marked; only a few râles were to be heard in front, and since all danger seemed to be past I left the patient for the night.

The subsequent history was uneventful. In thirty-six hours râles had wholly disappeared from the chest, and the patient, except for some weakness, was in every way as well as before the attack.

It may, perhaps, be of interest to note that immediately after venesection the only murmur to be heard was a rough, rumbling presystolic one, almost like a reduplication of the first sound. Later (on the following day) the systolic murmur had disappeared, and finally the aortic diastolic murmur was also not to be distinguished.

There are two reasons why the foregoing case seems to me worth reporting. In the first place such attacks of acute pulmonary edema are not at all common. While it is one of the most frequent things in practice to meet with an edema of the lungs, such edema is usually either an accompaniment of general anasarca and a mere terminal development; or it is partial, more subacute or chronic, and relatively unimportant. Here the edema might probably be termed *acutissimum;* it came on without warning, under fairly good compensation of the existing heart lesion, and within a couple of hours became so threatening as to make it evident that without relief the patient would rapidly succumb. Such cases are certainly rare, and yet exceedingly important because of the energetic treatment which they demand.

Again, the brilliant result of venesection in this case is not without interest, and may prove a stimulus to others in a like emergency. Fifty years ago it would have seemed ridiculous to report a case of simple venesection, but to-day it is a different matter. It is really not so easy to decide to bleed a person in the face of the strong sentiment against the procedure which exists in the minds of both laity and profession. A death after venesection is likely to arouse much comment, especially if the patient appears to be already weak and bloodless. In the present instance it certainly seemed a desperate remedy, and yet I am convinced that nothing else would have arrested a fatal result.

The indication for venesection in cases of pulmonary edema would seem to be its sudden and excessive development as a result of acute pulmonary congestion in a patient who has hitherto shown but moderate signs of failing compensation. Where it occurs in cases of general anasarca, toward the close of life, it is very questionable whether it is the edema which destroys life, or whether this is not rather due to a progressive cardiac insufficiency of which the edema is a mere terminal incident. At all events venesection is rarely indicated under such circumstances; no case has ever come under my observation where it was even considered. To feel justified in resorting to it, one must be confident that the edema is an accident, as it were, resulting from some sudden and unusual strain upon the heart, from which the latter is quite capable of rallying if only the extra burden be once removed. The good which it may then accomplish is certainly one of the most striking and beneficent results of therapy that the writer has ever seen.

MEDICAL PROGRESS.

Volvulus of the Stomach.—BERG (*Centralb. für Chir.*, September 3, 1898) describes two cases of twisting of the stomach upon its axis, the diagnosis resting not only upon the symptoms which were present, but being confirmed by operation and the course of the trouble during convalescence. In both instances operation was performed with entire success. From the character of the lesion the name volvulus of the stomach seems a suitable one.

Spasmodic Tumor of the Stomach.—SCHNITZLER (*Centralb. für Chir.*, September 3, 1898) found upon repeated examinations of the abdomen of a hysterical woman aged thirty-five years, a tumor in the pyloric region. The tumor was the size of a small apple, movable, though not moving much with respiration, and painful on pressure. It was not present at all examinations. Laparotomy was performed, and the stomach appeared normal, although the pyloric muscular apparatus was somewhat thickened. Suddenly under the eyes of the operators a tumor developed about 3.5 inches long and 2 inches wide, extending upward from the pylorus. This subsided in forty-five seconds, but reappeared some minutes later. A pyloroplasty was performed for the relief of the ulcer suspected to be present, upon the same principle that the sphincter of the anus is stretched for a fissure.

Puncture of the Transverse Colon in Typhoid Fever.—DALGLEISH (*Lancet*, October 1, 1898) mentions an instance in which ready action on the part of the physician undoubtedly saved the life of a young man suffering from typhoid fever. The case progressed rapidly, and on the seventh day tympanites displaced the heart and interfered with its action. The apex beat was well above and to the left of the nipple. The passage of a long tube up the rectum led to the evacuation of a quantity of offensive fluid, but the distention was not relieved. The transverse colon could be plainly seen through the abdominal walls. A trocar and cannula were, therefore, pushed into it, and gas escaped with a loud noise for two minutes. The temperature dropped from 104° to 100° F., the bowels became regular and stronger, delirium disappeared, and gas was thereafter passed from the anus. No untoward symptoms followed this radical procedure. Eight days later there was hemorrhage from the bowels, and the case throughout was a severe one, but the patient ultimately recovered.

Advantages of a Permanent Closure of the Rectum after Operations for Cancer.—KEEN (*Louisville Jour. of Surg. and Med.*, September, 1898) has come to the conclusion that after a resection of the rectum for cancer the patient is in a more comfortable condition if the lower end of the bowel is closed altogether, and the feces are allowed to escape through a permanent abdominal fistula. The sacral anus is unsatisfactory because it necessitates the wearing day and night of a napkin, and there is often beside more or less prolapse of the bowel, and frequently involuntary escape of fecal matter. Moreover, if an operation is done without a preliminary abdominal colostomy there is great danger of infection, because it is impossible thoroughly to cleanse the bowel and protect the wound. Keen, therefore, always precedes his resection by a Maydl's colostomy. Then the upper bowel can be thoroughly emptied and the lower one cleaned in a manner which would be impossible if such an opening had not been made. The rectum is then resected and permanently closed. The condition of the patient afterward is most satisfactory. He can wear a belt as tight as is necessary, both to prevent the escape of feces as well as to prevent prolapse, and the situation of the anus is such that its care can more readily be attended to by the patient himself than when it is in the sacral region.

Diagnosis of Pulmonary Tuberculosis in the Child.—MEUNIER (*La Presse Med.*, August 13, 1898) makes the diagnosis of pulmonary tuberculosis in the child by miscroscopic examination of swallowed sputa. He speaks of the different methods by which attempts have been made to obtain for examination the sputa of young children suspected of having pulmonary tuberculosis. As is well known, the young child does not spit, but swallows the discharges from the trachea and lungs. Two methods have been proposed to obtain this mucus for microscop-

ic examination. Kauffmann, by means of a sound and swabs, wipes out the back of the throat. Kossel, by examining the sediment of the fecal matter collected in the centrifuge has been able to stain and demonstrate the presence therein of tubercle bacilli. Meunier finds it far simpler and more satisfactory to pass a tube into the stomach and empty and wash out that organ. The swallowed sputa are readily recognized, and obtained for a microscopical examination. In fifteen cases in which this method of examination was carried out and subsequently confirmed by post-mortem examination, it was found that only in one instance did the microscope fail to reveal the presence of bacilli when pulmonary tuberculosis existed. This method of examination can be more successfully applied in advanced cases in which there is abundant sputum of a mucopurulent character.

A Word as to the Suture of Hairy Skin.—BOND (*Maryland Med. Jour.*, September 24, 1898) says that an oblique wound through skin in which hairs are growing is often prevented from uniting, even though approximately stitched. This is because of hairs which have been divided obliquely. As they continue to grow they are unable to find their openings in the superimposed flap, and therefore grow up between the upper and lower edges of the wound, causing irritation, and possibly stitch abscess. The treatment for such a wound is to open it, liberate the hairs, and cut off the projecting flap in order that the deeper hairs may have no overlying tissue to interrupt their growth. These facts will explain both the slow healing of wounds of hairy skin and the wide white scars which are so common in the scalp and face.

Diagnosis of Typhoid Fever by the Aid of the Microscope.—MACLEAN (*Maryland Med. Jour.*, September 24, 1898) has been greatly assisted in the diagnosis of cases of typhoid fever by microscopic examination of the blood. Almost all local inflammatory processes produce leucocytosis, while typhoid, if free from complications, does not do so. In two cases which appeared to be typhoid fever the examination of the blood showed no leucocytosis. Further developments proved that both of these patients were suffering from abscess of the liver. At other times the blood-count has served to distinguish appendicitis and typhoid. Late in the disease various complications, such as otitis media, perforation or abscess, will lessen the value of this symptom, but in the early stages the absence of leucocytosis is strong confirmation of a diagnosis of typhoid. The writer emphasizes the following points:

1. The absence of leucocytosis is strong evidence that an existing fever is typhoid, malarial fever being excluded by absence of the plasmodium.

2. If leucocytosis does occur in the course of an unmistakable case of typhoid it indicates some untoward complication.

3. Both feces and urine should be carefully disinfected throughout the course of the disease. Too often directions to this effect are omitted by attending physicians.

4. Widal's reaction is diagnostic in many cases in which, at the time, clinical findings are obscure.

5. The value of serum diagnosis, as well as other methods, must be determined by the practitioner who controls the patient upon whom the tests may be made.

THERAPEUTIC NOTES.

To Increase the Power of Trional.—HABERMANN (*Centralb. für Inn. Med.*, September 17, 1898) administers trional in carbonated water, which by reason of the carbon dioxid contained in it, dissolves the drug and conceals its taste. It also hastens its action so that the patients often fall asleep within ten minutes after drinking the half or the quarter of a 12-oz. bottle containing only 15 grains of the drug. With such a small dose the patient sleeps eight hours and awakes without feeling tired and without headache.

Poisoning by Lysol.—CRAMER (*Centralb. für Gynäkol.*, October 1, 1898) reports a case of fatal poisoning from the use of three pints of one-per-cent. solution of lysol as a uterine douche. Several cases of death following the ingestion of pure lysol have been reported, while in three instances its application upon skin wounds has resulted fatally, but so far as known this is the first fatal case from the use of a diluted solution of lysol. The uterine injection was made immediately after the birth of the placenta but was suddenly interrupted by the collapse of the patient. She recovered from the collapse, however, only to die ten days later with symptoms similar to those of carbolic-acid poisoning. Cramer reckoned that a quantity of lysol equal to 7 minims of the drug may have found entrance to the venous circulation. The value of uterine injections depends not so much upon the disinfecting power of the fluid used as it does upon the mechanical cleansing. Hence, the importance of having the antiseptic fluid as weak as possible in case irrigation is employed after childbirth. Indeed, for this purpose, many prefer normal salt solution to any disinfectant.

A New Method of Treatment of Inflammatory Pelvic Troubles.—PINCUS (*Zeit. für Geburt. u. Gynaek.*, vol. XXXIX, p. 13) gives the following rules for the treatment of inflammatory troubles of the pelvic organs, which are based upon a wide personal experience as well as the study of the literature of the subject:

1. The treatment of inflammatory and exudative processes in the parametrium, pelvic peritoneum, and tubes ought to be a non-operative one. Surgical measures are to be regarded as a last resort, except in the case of those who are unable to afford the time and money for a conservative treatment.

2. The object of treatment should be, surgically speaking, the attainment of perfect rest of all the organs of the pelvis.

3. This is only to be secured by: (*a*) increase of the abdominal blood-pressure; (*b*) assistance of the venous current in its return; (*c*) greater rapidity of the lymph stream, with the help of gravitation; (*d*) elevation of the organs of the pelvis, at least the affected parts being

lifted well out of the cavity of the pelvis; (*e*) the greatest possible immobilization of the affected organs.

4. To accomplish these ends the patient should be placed on an inclined plane, making an angle with the horizon of from 12° to 35°, and compression should be exerted upon the abdomen. By auto-transfusion the medulla and the heart are stimulated to greater endeavor. Respiratory gymnastics should be practised to increase to its limit the aspirating power of the respiration. The diet should be carefully looked after, and not only the strength but the weight of the patient be kept up, so that the normal fat around the pelvic organs may not be wanting.

5. Treatment on an inclined plane should be continuous, interrupted only in those cases such as puerperal ones, in which there is a uterine discharge, or in which douches have to be given, etc.

6. Compression is either direct or indirect. Direct pressure may be accomplished upon the abdominal wall or through the vagina. It is usually best to exert pressure in both ways at the same time. Vaginal pressure is in most cases no more than the immobilization of the pelvic organs. Abdominal pressure may be produced by an elastic bandage, rubber plaster, a bag of meal, or by moist potter's clay from two to ten pounds. Vaginal pressure may be produced by an air pessary, by a colpeurynter, or by tampons. All of these should be perfectly aseptic.

7. Pressure should be continuous or intermittent according to the nature of the case. In acute cases it should only be applied in conjunction with inclination of the body, and should be employed only so far as fever and pain are thereby reduced. In chronic cases pressure should be continuous, unless pain or fever manifests itself. Pelvic massage is of great assistance in such cases.

8. This method of treatment, combining compression with the force of gravity, is of great service in all affections in which there is hyperemia of the pelvic organs, or in which it is desirable to improve the position of the uterus, or to loosen adhesions, as well as in the troubles already mentioned. The most striking benefit is received in chronic cases of parametritis, pelvic peritonitis, and affections of the tubes. The length of treatment varies according to circumstances from a few days to several months. In chronic cases, whenever possible, the patients should be up and about. At night the inclined position should always be taken, as well as occasionally during the day, but at other times the effects of elastic bandages on the abdomen and vaginal distension are sufficient to achieve the end sought.

9. If in spite of treatment the exudate does not grow smaller—this may happen in puerperal parametritis—and even with a light fever there is loss of strength, there is not only pus present, but most probably a perforation as well, which must be treated by operation.

Intoxication Produced by the Administration of Felix Mas.—SIDLER-HUGUENIN (*Corres.-Blatt für Schweizer Aertze*, September 1, 1898) has collected 78 cases of intoxication produced by the administration of Felix mas. No fewer than 12 of these patients died and 33 suffered from permanent blindness. In 18 instances the trouble was bilateral, and in 15 unilateral. Five other patients lost permanently some of the acuteness of their vision. Six others lost their sight temporarily. The examination of the eyes of these patients showed the lesions of simple atrophy of the optic nerve. These figures are sufficient to convince any one of the danger attending the administration of large doses of this poisonous drug. It is doubtless true that many lighter cases of poisoning are not reported. The symptoms in such cases are nausea, weakness, stupor, ringing in the ears, headache, heaviness of the limbs, trembling, hiccoughs, jaundice, albuminuria, with hyalin casts and ischuria. Such symptoms pass away in a few hours or in a day or two. On account of the poisonous attributes of Felix mas attempts have been made to separate its active principles but so far with incomplete success. The extracts, in order to have the best effect must be absolutely fresh; it is also important that the roots from which the extract is made should have been freshly gathered. The administration of castor oil, either before or after this drug, is to be condemned, since it seems to increase its toxicity. Some saline should be given if a laxative is necessary. Special caution is necessary in the administration of Felix extract to anemic or ill-nourished individuals. The preceding treatment of these patients should be made as short as possible, and if the earlier doses of Felix mas produce symptoms of intoxication no more of the drug should be given. If severe symptoms of intoxication manifest themselves they should be treated by injections of ether and camphor.

Meat in Lithemia and Gout.—BAUM (*Phila. Polyclinic*, October 1, 1898), who has tested lithemic and gouty patients with various kinds of diet, finds that in order to secure definite results it is best to order a fixed course of food for a certain period, and to discontinue all medicines during the test. Animal food, excepting milk, will cause a deposit upon the teeth of gouty patients within half an hour after a meal. If a meat diet is persisted in, there results a listlessness and irritability of temper, and often, depression of spirits. There may be pain around numerous small joints, cramps in the muscles, soreness in the heels, neuralgic pains in the head, offensive breath, bleeding of the gums, fevered tongue, scanty, high-colored urine, drowsiness, lassitude, ringing in the ears, cold feet, irregular heart, etc., etc. If a full diet, or even a moderate diet of animal food is taken for several weeks or months a gouty patient will be sure to exhibit some or all of the above symptoms. If a diet is prescribed which furnishes a minimum of products to be excreted, an improved condition of health will soon manifest itself. No poisons are more rapid in their action than those produced within the body. Meat supplies material for the manufacture of poisons so that in severe cases milk is the only animal food which should be allowed. It will rarely produce discomfort. As a rule, white potatoes are not well tolerated. Many patients cannot eat tomatoes and rhubarb. Each patient must experiment until a diet of suitable vegetables is found. The secret of success in the treatment of these diseases is to lighten the labors of the weakened eliminating organs.

THE MEDICAL NEWS.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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Address the Editor: J. RIDDLE GOFFE, M.D.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK.

Subscription Price, including postage in U. S. and Canada.

PER ANNUM IN ADVANCE	$4.00
SINGLE COPIES	.10
WITH THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, PER ANNUM	7.50

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LEA BROTHERS & CO.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK,
AND NOS. 706, 708 & 710 SANSOM ST., PHILADELPHIA.

SATURDAY, DECEMBER 3, 1898.

AN enterprising bureau of newspaper clippings in Germany has recently sent us marked copies of the newspapers published in German in which quotations from the MEDICAL NEWS have appeared during the past year. We have been not a little interested and gratified at the number of German papers by which we have been quoted, and think our readers may share some of our feeling of satisfaction in the matter. The list of papers includes the Berlin *Volk's Zeitung*, the *Berliner Fremdenblatt*, the *Berliner Zeitung*, the *Deutsche Tageszeitung*, the *Deutsche Wacht* of Berlin, the *Leipziger Neueste Nachrichten*, the *Dresdener Journal*, the *Magdeburgische Zeitung*, the *Kölnische Zeitung*, the *Stettiner Neueste Nachrichten*, the *Fränkischer Kurier* of Nüremburg, the *Chemnitzer Tageblatt und Anzeiger*, the *Neue Freie Presse* of Vienna, and the *National Zeitung* of Basel in Switzerland. The articles principally quoted are our letters from Cuba during the war, our foreign correspondence, and the reports of the proceedings of medical societies.

IT is officially announced that a six-day continuous bicycle race is to begin at Madison Square Garden, New York City, on December 5th. The New York consulate of the League of American Wheelmen, with the best interests of cycling at heart and a due regard for humanity in view, endeavored to have the Board of Aldermen of the city pass an ordinance forbidding it, but their efforts were in vain. New York is to be treated to another of those revolting exhibitions which have characterized six-day continuous cycling in past years. The daily papers will report in detail the mental hallucinations that the contestants are laboring under as the result of their persistent overexertion, and the morbidly curious will flock to gaze and wonder, and eventually be amused. The managers will reap their rewards from this morbid curiosity of the public, and though a few more physical wrecks will be added to the list, the offense to a right sense of humanity will be quickly forgotten. We had hoped we would be spared the exhibition this year but the city fathers doubtless have convincing reasons why the very commendable appeal of the representatives of what is best in cycling should go unheard. We reserve further comment till after the event.

THE following communication from Professor D. G. Brinton of the University of Pennsylvania recently to *Science* seems to need no comment beyond his own: "In the *Revue Scientifique* for April last Dr. Cesare Lombrosa, in an able discussion of the relative influence of heredity and environment, announced the conclusion that 'the influence of environment is potent enough to annihilate all ethnic traits.' "At the meeting of the German Anthropological Society, in August of this year, Professor Kollmann of Basel, in an address on the same subject, stated the dictum of science to be that 'the influence of heredity is far stronger than that of environment. The ethnic traits are immortal and persist, though the peoples who bear them may disappear from history.'

"These are two of the most eminent authorities among European anthropologists. As the traditional circus man said, 'You pays your money and you takes your choice.' "

RAILROAD EMPLOYEES AND FIRST AID TO THE INJURED.

THE value and the efficiency of the prompt application of aseptic dressings to wounds of every

character as employed during the recent conflict in Cuba has been shown with the conclusiveness of a demonstration. The ready inference is that in every large enterprise in which machinery is employed such a supply of aseptic dressings and bandages as will afford facilities for prompt aid in case of accident should be kept on hand. It must not be forgotten, however, that the success of the experiment in the army lay in the fact that every soldier was carefully instructed in the use of these appliances, and, therefore, employed them intelligently. It is not enough to have the material at hand, the knowledge of how to use it efficiently must also be supplied. In unskilled hands such things may do quite as much, perhaps even more, harm than good. Hence, we ask for the proper drilling of employees in their use.

In no department of civil life do these thoughts find such pertinent application as to the railroads of the country. Not only is there here a great army of employees in constant danger of more or less serious accident, but the great traveling public is equally concerned. The public has a right to demand, therefore, the most thorough system of human and mechanical safeguards against accident, and a thoroughly equipped and competent corps of men as well, to meet the accident emergencies when they arise. A conviction of the efficiency of this arrangement in the prevention of serious consequences from accidents as well as the saving of life should be sufficient to prompt the management of every railroad of the country to its immediate adoption. Every dictate of humanity, as well as financial interest, demands its enforcement.

A system of drilling railroad employees in the giving of first-aid has been adopted by certain of the English railroads, and is giving such good satisfaction that its acceptance by other roads is looked for in the near future. The benefits to be derived from this feature of employees' training are so patent that they need scarcely be insisted on. That at times life even would be saved there is no doubt. Then suffering would always be alleviated and certain complications of the after-course of the injury avoided by proper treatment at the beginning. Some one said during the late war that the prognosis of a wound not necessarily fatal because of its primary effect or its position was practically dependent on the first-dressing applied to it or its handling before it came into the surgeon's hands. The maxim is not so absolutely true of the lacerated wounds and crushing injuries of railroad accidents, but all of its application is not lost, and the first-handling, dressing, and moving of these patients remains of the greatest importance as regards the after-course of the injury. The length of time that a patient will be disabled depends to a great extent, in certain cases at least, on what is done, and especially what is *not done*, for him during the first hour or two after the accident. A meddlesome, though sympathetic humanity, sometimes makes sad mistakes in these cases. One of the most annoying items in the expense account of railroads is the damages for accidents and suffering and disability. There would seem to be in this expedient of training railroad employees in first-aid a most effective means of reducing this item of expenditure, and at the same time doing some very substantial good in the cause of humanity. Corporations are said to have no souls, but a distinguished American diagnostician has lent the weight of his authority as to the existence of a "pocket-book" nerve, and this much at least a corporation may be supposed to have. Under the circumstances, then, it may be confidently looked for that our own railroads will soon adopt this thoroughly practical and extremely humane method in the regular routine of railroad service.

Our railroad surgeons are, as a body, a select corps that contains some of our best practical surgeons, men whose experience in railroad accidents and whose interest in the patients that come into their hands under such circumstances, as well as their attention to the best interests of the companies, may be depended on to make the best use of the suggestion in this line, that comes to us so opportunely from our English railroad cousins.

ATYPICAL AMPUTATIONS OF THE FOOT.

WE call our readers' attention to the very interesting discussion of amputations of the foot held before the New York State Association of Railway Surgeons during its eighth annual meeting, the proceedings of which are briefly reported in this issue. Men of large surgical experience, which brings them especially in contact with crushing injuries of the foot, insist that for laboring men particularly, it is

the surgeon's plain duty to save every portion of tissue possible. There must be no such question as to which one of the classical amputations, Hays' or Lisfranc's, Mikulicz's, Symes', or Pirogoff's, seems to be indicated in a given case; every bit of tissue that can be saved must be saved, the foot treated as a whole and the bone sections made wherever sufficient soft tissue can be secured to cover the divided ends.

It is very probable that in the past the undue prominence given in text-books, and, may we add, in examination questions to these classical amputations of the foot have been a fruitful source of evil. The practical guiding principle now must be the same as that for the hand: save every bit of tissue possible, without regard to so-called types of amputations. When the art of constructing artificial limbs was less developed than it is at present there may have been some reason for selecting certain "points of election" in amputation. There is certainly no reason for such a proceeding on this score now.

One other bit of conservatism remains to be noted. It is that primary amputations are dropping into disfavor. It is hard to judge immediately after an accident how much tissue is likely to live. Where circulation seems to be absent at first, it is sometimes restored. The tendency of immediate amputation is to remove too much, so that the best surgeons advise delay until Nature makes clear how much tissue cannot live, and then remove only that. An important manifestation of this condition is the fact that surgeons do not longer consider it a reflection on their surgical skill to have to perform a second amputation. It is better, as Professor Wyeth says, to err on the side of conservatism in these days when anesthesia and aseptic surgery have deprived amputations of their terrors and dangers, and be compelled later to perform a second amputation, than to remove at first a single bit of tissue that might have made a laboring man's limb more useful to him.

THE "WOCHENSCHRIFT" IN A COMIC VEIN.

On the occasion of the sixty-fifth anniversary of the foundation of the Aerztlichen Vereins (the Physicians' Association of Munich), the *Münchener medicinische Wochenschrift* issued a special "Scherznummer," or comic number. The *British Medical Journal* remarks that despite the generally accepted dictum that the Germans like the Scots "jock wee deeficulty," the number contains some really good fooling, though perhaps at times over elaborate. Any one familiar with the genial, whole-souled, pleasant ways of the Bavarians and of the profession at Munich, recognizes how distinct they are from the stolider practical North Germans. It is identically the difference between the Scot and the South Briton.

As might be expected this second issue of a comic number contains some excellent witticisms on medical things generally and some telling bits of pointed satire on the present most prominent features of German medical life. Every bit of this issue from cover to cover, from the announcement that the present number is gotten out without the *slightest* assistance from the usual distinguished collaborators, to the final advertisement is given over to fun. Some of the ads are excellent; cards of Dr. "Inserter," who is off on a consultation and will not keep his office hours, or is soon to be back, and of Dr. ——, who never disappoints his patients by being absent, etc., etc., culminating in a large display ad. of Dr. Trommler of Wiesbaden who, from the palace of the Shah of Persia announces that he has been summoned to attend H. R. H. and cannot say when he will be back. The South Germans would not seek long to find a personal application in the ranks of the ethical "regulars" whom some of these and especially the last "cap" (*large caps*) would fit. A special institute for the treatment of the Dramatic Neuroses, in which stage-struck maidens are warranted to be cured of their sad affliction, is announced apropos of the multifarious special sanatariums for chronic disease. Dr. Schlaukopf ("Slyboots") announces a new remedy for premature baldness due to excessive professional business, an unusual disease.

The offer of an enterprising firm to supply "artificial assistants" who will not exhibit the excessive reflex irritability of the natural article, who will not criticize their chiefs, and who will not have and hold opinions different from them, will surely commend itself to some of our fashionable and over busy medical men. They are furnished in specifications to suit every requirement and are not expensive. A transparent (guaranteed not to hinder the view of onlookers) surgical assistant capable of thorough

sterilization that calls "sponge" and "pad" ten times a minute costs $300, twenty times a minute, $325. A medical assistant (ordinary) costs but $25, if supplied with a special mechanism for the staining of bacilli, results always positive, the cost is $50. A gynecological assistant guaranteed to vaginofixate *every* uterus is worth $2.25, to vesicifixate every uterus, $4.75. As there are very large quantities of these on hand they may be had cheaper in lots. An assistant that will "antefix" only when necessary cost $50, one that will never (!) antefix or employ any other treatment for retroflexion costs $100, but there is only one sample in the market. No American applications for this are yet announced.

A new antisyphilitic remedy, Iodosanin, is guaranteed to be such an inalterable combination of iodin with albumin that no iodism or *any other effect* is to be looked for from it.

Among the announcements of new books we notice "A Strampfer." The most frequent injuries of bicycling—those of the pedestrian. "The Voluntary Procreation of Twins," by Paolo Firlefanzi, Firenze, 1898, and "The Morbid Sensibility of the English, particularly in reference to the naval advancement of other nations," by John Grudget, London, 1898.

Among the original articles is one on "The Artificial Production of Asexual Reproduction in Man (Homo Sapiens)." Tolstoï having shown in the "Kreutzer Sonata" that the present method of reproduction of the human species is horrible and utterly unsympathetic to the cultured soul, it is to be abolished. The product to accomplish this purpose is a concentrated extract of certain lower organisms that multiply by division and is called Tolstoiidin. Some experimental success is announced with the new remedy *of course*. "A Triumph of Modern Surgery," the removal of the stomach of a German student troubled with unquenchable thirst and the substitution of a pig's, followed later by the implantation of calf's brains, is by a distinguished fellow countryman, Professor Swindel of Mississippi College. All this is innocent fun, clean and pleasing, and not only gives the lie to the general impression among us that the German is lacking in humor, but ranks with the best of humorous conceptions.

Dr. Carl Beck Resigns.—Dr. Carl Beck announces that he has resigned his professorship at the New York School of Clinical Medicine.

ECHOES AND NEWS.

Dr. Herman Biggs Appointed Visiting Physician.—Dr. Herman M. Biggs has been appointed Visiting Physician to St. Vincent's Hospital, New York, in place of Dr. Joseph O'Dwyer, deceased.

Bubonic Plague in Russia.—The Russian government has enforced stringent measures for the suppression of the invasion of bubonic plague, which was recently reported at Samarcand.. There is every reason to believe that the precautions taken will be effective.

Yellow Fever at Havana.—The report of the Marine Hospital Service for the week ending November 19th announces fifty cases of yellow fever, with six deaths. Nearly all the cases are in the military hospitals. No new cases have developed among Americans. Indications are that the disease will now continue to rapidly disappear.

Medical Calendars for 1899.—The Antikamnia Company is out with a calendar for the coming year from designs similar to the one issued a year ago. The artistic coloring is attractive, and prompts the suggestion that if the same amount of talent were expended in a direction productive of designs less revolting it would be more acceptable to the profession of the country.

Too Good a Man to Lose.—Donald Maclean, M.D., Major and Chief Surgeon of Division, on duty at the United States General Hospital, Fort Monroe, having expressed an inclination to resign and go back to his practice and his home in Detroit, has been very highly complimented upon the "excellent work performed by him at the hospital" and he is cordially invited to remain in the service. The doctor has the matter still under consideration.

Craig Colony Prize for Original Research in Epilepsy.—The President of the Board of Managers of Craig Colony offers a prize of $100 for the best contribution to the pathology and treatment of epilepsy, originality being the main condition. The prize is open to universal competition, but all manuscripts must be submitted in English. All papers will be passed upon by a committee to consist of three members of the New York Neurological Society, and the award will be made at the annual meeting of the Board of Managers of Craig Colony, October 10, 1899. Manuscripts should be sent to Dr. Frederick Peterson, 4 West Fiftieth street, New York City, on or before September 1, 1899.

Tachypodia, or "Hot Foot."—Péan of Paris was once called in the capacity of a physician to attend a duel. One of the adversaries was so cowardly that he ran away after the first shot, unhurt. The four seconds, the remaining combatant, and the doctor stood looking at each other with embarrassment and discomfiture, when Dr. Péan broke the silence by saying gravely, "I know the disease that has suddenly attacked this gentleman." And, taking out his pencil and paper, he drew up a report as follows:

"At the first shot Mr. X. was taken with a sudden attack of tachypodia that would not yield to treatment. The seconds, therefore, on consultation with the physician, stopped the duel."—*Press and Circular.*

The Harold Frederic Case Again.—Mrs. Mills, the Christian Scientist, who has been indicted for manslaughter in the Harold-Frederic case was on trial during the week. It is believed now that the charge against the woman Lyon, the member of Frederic's household, will be withdrawn. The evidence showed that the only treatment that Mrs. Mills ever pretended to furnish consisted in reading her book to herself! (there may be some consolation in this if it was the usual Christian-Science twaddle) in Mr. Frederic's room. Once she misquoted the Bible and Frederic made her get a copy of the Scriptures and turn to the passage in order to prove her mistake. We protest that the leaders of the new medicine should know their remedies better than to make errors in prescribing them.

Relief for Widows and Orphans of Medical Men.—The fifty-seventh annual statement of the New York Society for the Relief of Widows and Orphans of Medical Men has just been issued. From this it appears that the funds of the society now amount to $230,781.11, securely invested, and the income for 1897–'98 was $10,518.28. Under the present by-laws of the society the annuities allowed are: To the widow $400 a year, but for every ten dollars or multiple of ten of income an amount equal to fifty per cent. of said income shall be dededucted from the annuity. Each child entitled to relief is allowed $100 per annum, subject to the same conditions as a widow. During the past year the society has extended aid to seventeen widows and six children of deceased members. The members of the society now number 138. The initiation fee is $25, the annual dues $10.

The Insane of New York State.—The Empire State makes provision for a small army of insane, according to the annual report for the year 1897 of the Board of State Commissioners in Lunacy. The whole number of committed insane in the State, public and private, on September 30, 1897, was 21,683; in State hospitals, including the inmates of the Matteawan State Hospital (for insane criminals), 20,843; in licensed private institutions, 840. The report further shows the general receipts to be $4,603,623.57, as follows: Proceeds of State tax, $4,368,712.80; from private and other sources, $234,900.67. The disbursements for the year were $5,489,819.49; for salaries, etc., $3,893,175; for new buildings, $608,556.73; repairs, $596,635. The greatly increased expenditure is due to the Matteawan State Hospital coming into the system, the expenditures for the combined years of 1896 and 1897 being less than the income for those years.

New Mexico from an English Viewpoint.—The new *Medical Review of Reviews* for October has in its leading article the following observations regarding the climatic treatment of tuberculosis, and says of the crusade against consumption recently inaugurated in London, that it is essentially a step in the right direction. In America the problem has received much attention, and over six years ago a French commission of medico-scientists was sent on a tour of the world with the object of deciding upon the most favorable spot for the treatment of pulmonary diseases. Southern New Mexico was finally selected by the delegates of the Société Medicale as the most favorable site for a consumptive sanatorium, the combination of almost perpetual sunshine, warm winters, considerable elevation, and dry aseptic atmosphere found in the southern counties of New Mexico affording conditions more favorable than those of any other locality.

The New York State Pathological Laboratory.—The ninth annual report of the New York State Commission in Lunacy, just issued, contains a full report on the methods and principles underlying the pathological work of the State hospitals, in the central laboratory in New York City. According to the *Charities Review*, November, this report "should receive careful consideration, for it not only develops methods of investigation, but presents a new view of the pathology on insanity which by common admission is less perfectly understood than any form of disease afflicting the human race; and, if any hope of alleviating this curse is held out, in a better understanding of its nature and prevention, no possible means should be withheld, or no lack of encouragement, toward its thorough investigation." Dr. Van Gieson, the director of the institute, is clear and explicit in his demonstrations and deductions, and cannot well be misunderstood.

No Bubonic Plague in San Francisco.—It was reported by wire from San Francisco during the past week that a disease, said to be bubonic plague, had been discovered in Chinatown. The entire district in which it appeared was put under strict quarantine regulations, but later developments showed that the disease differs materially from the plague, and, therefore, the first alarm has subsided and the quarantine has been raised. On October 28th, the French bark "Duchesse Anne" arrived at San Francisco, seventy-four days from Hong Kong. The Captain had died August 20th and a sailor September 19th, under circumstances suggesting to the officers who brought the ship into port the presence of bubonic plague. Dr. Rosenau, of the Marine Hospital Service, now reports that there is no special reason to think that either death was caused by the plague. The vessel was disinfected throughout, the crew bathed, and their effects steamed or sterilized by formalin, and released from quarantine.

Scallops in Sewage Waters.—Fairhaven, Conn., has a large industry in shell-fish which is being injured by sewage pollution. So large have become the quantities of factory refuse and sewage that pour into the docks that pleasure boats no longer anchor at that point. When the New York Yacht Club gave this as a reason for omitting its annual visits, it was laughed at, but now the citizens appreciate that the yacht owners discovered a condition which is becoming serious. When the Vineyard steamers went out this summer there was a trail of stench in

their wake as they stirred the water with their paddles, which demonstrated how polluted the river is with filth. Business at the Fairhaven bath-houses has fallen off, for it is only at high tide, and often not then, that the water is sufficiently clear to tempt a bather. Scallops taken in the upper harbor have caused fever among those who have eaten them, and physicians have declared that the shell-fish which live in the mud on the shore are dangerous to eat on account of the sewage. Many are agreed that there are things more serious than high taxes, and a menace to the health of the community is not to be lightly regarded.

Medical Registration in Connecticut.—The Regular Examining Committee of the Connecticut Medical Society has held eight special examinations during the year 1898, the last one November 8th. Seventy-five applicants were examined, five of whom were for midwifery only, seventy for general practice. Of the seventy general practitioners thirty-nine were found qualified and twenty-one not qualified, and six were conditioned. Of the latter three were afterward reexamined and found qualified. The results of the last examination have not yet been reported to the State Board. One of the rejected midwives was also reexamined and passed. This committee and the two other official examining committees have held a conference and decided to apply to the State Board of Health to appoint the time and place for examinations only once in four months, namely, in March, July, and November; that all examinations shall be written in English; and that at least seventy-five per cent. of answers must be correct to enable a candidate to pass; but that "conditions" may be allowed, if there are not more than two branches under a marking of seventy-five, and the markings not less than fifty, with reexamination at the expiration of four months.

Meeting of the New York County Medical Society.—The President, Dr. S. D. Van der Poel, read his Inaugural Address on "Some Medical Aspects of Life Insurance." Dr. W. H. Thomson read a paper on "Cuban Malarial Fever." It will appear in full in our columns in a subsequent issue. Dr. Sturgis moved the appointment of a special committee of three to confer with similar committees from other medical bodies in the State for the purpose of taking such measures as were deemed necessary to secure legislation for the regulation of the abuse of medical charity at the dispensaries. Dr. Farr offered an amendment to refer the matter to the comitea minora. The amendment was carried. Dr. Valentine offered a motion directing that 2500 copies of the By-Laws of the Society be printed and distributed to the members with the notices of the next meeting. Dr. Philips moved the motion be laid on the table, because the By-Laws recently adopted must first be approved by the State Society, and there is the possibility of some of them not receiving that approval when the printed By-Laws would have to be replaced, and needless expense incurred. Some discussion followed. The motion to table the matter was lost and the original motion of Dr. Valentine passed. Regular meeting, November 28, 1898.

SPECIAL ARTICLES.

A REVIEW OF THE REPORT OF THE SURGEON-GENERAL OF THE UNITED STATES NAVY.

THE report of the Surgeon-General of the United States Navy for the year ending October 1, 1898, is an important one. Much that it contains has already appeared in our columns but the official form in which these facts are now presented lends renewed interest to them. It contains the medical records of naval warfare carried on by modern battle-ships, with the many interesting problems they involve. It will be read and referred with pride by Americans because it contains the record of how a magnificently organized service under the direction of American medical men was able to cope successfully with the untried problems in sanitation and hygiene that modern naval warfare had set them, and because the advances it chronicles in certain lines will doubtless prove the fruitful seed for still further improvement in naval medical matters, not alone for America but for the world.

The statement that the medical inspector of the North Atlantic Squadron is in a position to make is indeed worthy of note: "It is estimated from data at hand that the average daily loss of strength from disease, casualties in battle, and the ordinary injuries incident to ship-life was about 2.5 per cent. That such a result was obtained after long confinement on shipboard and sameness of diet, during a tropical summer, without awnings and with air-ports closed by battle-plates at night, must be regarded as remarkable." Quite as gratifying is the report of the surgeon of the marine battalion: "We had no deaths from disease or any seriously sick while on Cuban soil." It is noted just before that the rule "Drink no water, except distilled, until it has been boiled," was faithfully observed. We may manifestly be as proud of the medical features of the naval history of the Spanish War as we shall ever be of the gallant deeds of the navy in action.

Two special features of the report seem worthy of mention: the detailed account of the service rendered by the hospital ships, and the discussion of the inadequacy of hospital and surgical quarters on board the most recent men-of-war. The first constitutes the official data for the initial chapter on the history of hospital ships in warfare. One is tempted to wonder if the second feature mentioned, *viz.*, the criticism of the utter inadequacy of present arrangements for caring for the wounded during action, will have the desired effect upon naval architects and cause certain changes in plans that will remedy the defects so clearly pointed out.

A REVIEW OF THE REPORT OF THE SURGEON-GENERAL OF THE UNITED STATES ARMY.

THE WORK OF THE MEDICAL DEPARTMENT DURING THE SPANISH WAR.

UNDER the above title Surgeon-General Sternberg issues a summary of his report for the year ending June

30, 1898. Details are discussed that practically bring the report down to October 1, 1898, so that the document contains in brief the medical history of the military arm of the service during the war. We turn to it with certain feelings of misgiving, especially after having reviewed the report of the Surgeon-General of the Navy. A careful perusal of it shows, however, to our mind, that though less successful than the naval medical department in preserving the health of those under its care, the army medical department is not deserving of the blame that has been heaped upon it from certain quarters. Difficult problems were met with admirable skill, and as soon as proper organization could be effected, in what was necessarily at first a heterogeneous corps of men in new and untried conditions, good results were secured. The medical history of the Porto-Rican campaign, undertaken after proper organization and without the haste that characterized so much of the military management of the war, may be pointed to with pardonable pride as a notable chapter in the medical history of campaigning in hot climates.

The comparison that is inevitably suggested with the correspondingly naval department is manifestly unfair. The navy, even in time of peace, is much more nearly on a war footing than is the army. In fact, the main effort of Congress for years might seem to have been to keep the army as far from a war footing as possible, and the idea had been allowed to grow up that we would probably never again need a fighting army. "The very small proportion of medical officers," to quote the Surgeon-General, "having experience of a military character impaired the efficiency of the department at the outset, though many of the staff surgeons from civil life showed great aptitude for the service." It was not to be expected, however, that the new appointees should master the problems of an unfamiliar and difficult service at once. Many learned by erring, and error was costly, and when the experience had been gained the war was over.

It does not in the least disparage the magnificent work of the naval medical department to say that their splendid success in the matter of sanitation was due to training before the war under such circumstances as made the experience a counterpart of what fell to their lot in the war. This was not true, for the military medical men, living at frontier army posts or in garrison, seeing practically nothing of camp life, and that little with only small bodies of men. There were a few of the older men survivors of the Civil War, who had had camp experience with large bodies of men, but even that was not so useful with the modern ideas of hygiene and camp sanitation that the development of medicine in these last thirty-five years have introduced. The ideas gained from the annual eight to ten-days' camping of the State militia for drill were, as the event has proved, misleading in the extreme. The sanitary measures that served excellently for so short a time proved treacherous aids when the camps were to be occupied for months, and the trusted experience thus gained brought costly disappointment.

Despite the universal experience in the matter of infectious and intestinal diseases, where large numbers of men camp together, there was no proper realization of the dangers ahead except by a very few. It was impossible to impress the men with the necessity for the precautions so strenuously advised. Moreover, despite rigid medical examinations quite a number of men unsuitable for military duty found their way into the ranks. The reduction of the age of admission from twenty-one to eighteen years allowed the entrance into the army of a large number of unformed youths, of incomplete development, still attaining their growth, illy calculated to stand the hardships of camp life, and on whom it was difficult to impress the necessity for careful sanitary precautions. Added to this, unfortunately, was the fact that in certain cases camps were near cities, and inebriety and venereal disease came to add to the general unhealthiness, to lower resistive vitality even in the robust, and to seriously complicate the caring for the health of the troops.

So much in extenuation of the unfortunate results of camp life. A glance at the mortality statistics to October 1st shows that a great deal of exaggeration has been indulged in by a sensational daily press as to the actual death-rate. The death-rates for May and June, 46 and 70, were not in excess of those of the army in time of peace. In July the death-rate became somewhat higher than that of most well-cared for cities, 2.15 for the month, an annual death-rate of 25.80 per 1000 living. In August it became excessive, 4.08 for the month, and dropped under energetic sanitary measures to 2.45 for September. Statistics so discussed are notably untrustworthy. In one sense the comparison with city death-rate has no place here, since the death-rate was in selected cases of mostly young, strong, previously healthy men, and one is inclined to resent what looks like an attempt to gloss over actual losses. The total mortality of the army, however, from May to September inclusive, was 1715 deaths in an army of 167,168 men, scarcely more than one per cent., certainly not a high death-rate under the circumstances.

Three needs of the army medical service are brought out by the report: an increased medical corps which is formally demanded; an independent quartermaster service for the medical department, to obviate in the future the sad state of affairs that developed at some of the camps, and the lamentable conditions that prevailed at Santiago. Finally, there is the need of an efficient corps of trained nurses for field and hospital work.

One evil attendant upon our political system that undoubtedly had its effect in lowering the efficiency of the army medical service during the war does not, we think, receive due notice from the Surgeon-General. Political influence had unquestionably a large share in the appointment of certain medical men whose training and capabilities but illy fitted them for the positions they secured. This is a feature not liable to come into prominence for long years again and only brought out on this occasion because of the hurry of enlistment, but the public condemnation of it now should be so strong that at no future time will an administration dare to make political capital out of positions involving such serious responsibilities of life and health.

SANARELLI'S SERUM IN THE TREATMENT OF YELLOW FEVER.[1]

BY EUGENE WASDIN, M.D.,
SURGEON, U. S., M. H. S.

SIR:—Under your instructions of September 16, 1898, to proceed to New Orleans, La., and endeavor to obtain cases of yellow fever in which to use the serum, I called upon the authorities of the Charity Hospital on October 1st, and upon those in charge of Touro Infirmary in that city, and made known to them your earnest desire to have granted us the privilege of visiting cases of this disease in those institutions and of using the serum in those we thought suitable, this to be done only in consultation with the attending physician.

Professor Ernest Lewis, Vice-President of the Board of Regents of the Charity Hospital, after consultation with the Superintendent of the institution, informed me that it was thought best to refuse your request on the ground that a test of the same serum, presented to the institution by Professor Sanarelli, was then in process, and that the limited number of cases in hospital scarcely furnished material for this test.

The authorities at the Tuoro Infirmary, especially Dr. Loeber. promised every facility for the use of the serum, manifesting a lively interest in the subject. At the same time they informed me that a definitely marked case of yellow fever was very rare in their hospital; that the prevailing type was so poorly marked, so slightly developed, that often it was found necessary to rely upon the fact of the presence of the disease in the community for a diagnosis. All such cases were treated very tentatively, scarcely any medicine being demanded; and in these it was thought there could be no definite results gained from serum exhibition, since they invariably recovered. Such were the cases then on hand. But I was promised instant notification of any admission of a serious type, and preparations were made to respond to such calls.

Consultation with Surgeon Carter, senior surgeon at New Orleans, on October 8th, no suitable cases having been admitted to the Touro Infirmary, decided me to seek at Wilson, La., then generally infected, cases in which to test the prophylactic influence of the serum, and I proceeded there on that date. In this village of some 600 people I found the majority of the population sick or convalescent from a very mild type of fever, so much so that there seemed but little evidence of alarm. Through the courtesy of Acting Assistant Surgeon Bland, U. S. M. H. S., I saw a number of these cases, and he and other local physicians soon acquainted the people with the object of my visit. There was evidence of an indisposition to be "experimented" upon and many declined "the South-American treatment." Of those who had been exposed, and who would probably develop the disease, there were three or four who expressed a disposition to submit to the prophylaxis, but they invariably asked for a guarantee, and when this could not be given they hesitated between the unknown remedy and the light type of the disease.

However, two cases of tolerably well-developed yellow fever were found willing to receive the serum treatment, and these are detailed below. In the second case the use of the serum was followed by such annoying urticarious erythema, especially after the second injection, that the apprehensions of the family were aroused, and the fact of the new treatment having produced symptoms not seen in any other cases, and of so serious an appearance, immediately became the subject of general comment, and I quickly found the serum relieved of all sympathy, and invested with unknown possibilities for harm. I could get no consent to its prophylactic use.

At this time advices from Surgeon Carter directed me to Baton Rouge, La., where fever was then very rapidly spreading, and by invitation of Dr. C. McRea, I visited that city on October 12th. meeting and discussing with a large number of the physicians the probability of being able to use the serum. There was an expression of the liveliest interest in the subject and a disposition to render me aid, but a general conviction that they were scarcely warranted in advising the use of the serum in view of the very simple nature of the prevailing disease. In those cases developing more serious symptoms it was not deemed best to rely upon the serum. Hoping that cases might have occurred in the Touro Infirmary at New Orleans I returned to that city, and although there had been and were none suitable in that institution, I had the opportunity to see one at the United States Marine Hospital under the care of Dr. Faget. This is detailed below:

CASE I.—Robert Anderson; aged fifty years; a vigorous man, was taken sick at 10 P.M., October 8, 1898, with intense pain in back and limbs and a severe rigor, followed by high fever. When seen at 4 P.M. of the 9th, in consultation with Dr. Bland, the typical facies, pains, and commencing icterus left no doubt that he had succumbed to the infection to which he had been freely exposed. Thus far only a mild mercurial had been prescribed, and with his consent the antiamarylic serum was used. At 6.15 P.M., 10 c. c. of serum were injected into the connective tissues of the loin, pulse 84, temperature 101.6° F.; much congestion of vessels of the skin of the face. Temperature to be taken every two hours as nearly as practicable.

At 9 P.M., temperature 103.2°, pulse 86, more marked flushing of the face and some sweating; at 11 P.M., temperature 101.8°, pulse 84, semi-delirious and perspiring very freely, urine free; at 1 A.M., October 10th, temperature 101.4°, pulse 81, sleeping; at 3 A.M., temperature 101.1°, pulse 78, quiet; at 6 A.M., temperature 100.5°, pulse, 76, urine free; at 8 A.M., temperature 100°, pulse 66, urine free; at 9 A.M., 10 c. c. of serum were injected into the connective tissue of loin; at 10 A.M., temperature 100.6°, pulse 70, congestion of face; at 3.40 P.M., temperature 100.9°, pulse 78, sweating profusely; at 5.45 P.M., temperature 101.3°, pulse 78, urine free; at 7 P.M., temperature 101.4°, pulse

[1] Extract from report to the Supervising Surgeon-General, United States Marine-Hospital Service of tests made in Louisiana in the use of Professor Sanarelli's *serum antiamarylic* as a curative agent in yellow fever.

78; at 9.30 P.M., temperature 101.3°, pulse 74, restless; at 11 P.M., temperature 101.3°, pulse 72, slept one and one-half hours; at 1 A.M., October 11th, temperature 100.9°, pulse 74, urine free; at 3 A.M., temperature 100.9°, pulse 73, sleeping; at 5.20 A.M., temperature 101.4°, pulse 75, feeling weak; at 7.10 A.M., temperature 100°, pulse 70; at 9 A.M., temperature 99.8°, pulse 68, injected serum 8 c. c.; at 7 P.M., temperature 101.1°, pulse 78, urine free; at 10.15 P.M., temperature 100.7°, pulse 76, refused nourishment; at 3 A.M., October 12th, temperature 100.5°, pulse 76; at 6 A.M., temperature 100.5°, pulse 72, slept well; at 8 A.M., temperature 100°, pulse 75, urine free; at 5 P.M., temperature 100.4°, pulse 70; at 9 P.M., temperature 99.8°, pulse 68, bowels free; at 1 A.M., October 13th, temperature 99.3°, pulse 68, urine free; at 6 A.M., temperature 98.9°, pulse 62, takes food; at 6 P.M., temperature 100.1°, pulse 62, well; at 7 A.M., October 14th, temperature 98.6°, pulse 64; at 6 P.M., temperature 98.6°, pulse 68, discharged.

CASE II.—Fred. A., aged nineteen; a healthy young man, son of preceding patient, and much exposed to the infection, was taken sick at 6 P. M. of October 9, 1898, with a severe chill; pain in back and limbs, intense headache and nausea. He received a mustard bath and a mercurial with phenacetin. Temperature ranged from 101.3° to 103.1°, pulse 115.

At 9 A.M., 10th, he was given 12 c. c. of serum under the skin; temperature 102.7°, pulse 110; at 10 A.M., temperature 103.2°, pulse 110, and there was marked congestion of face, lips, ears, and body; at 12 M., temperature 103.2°, pulse 110; at 3:40 P.M., temperature 103.2°, pulse 110; at 6 P.M., temperature 102.5°, pulse 114, perspiring; at 8 P.M., temperature 102.2°, pulse 96; at 11 P.M., temperature 102°, pulse 98, slept well; at 1 A.M. October 11th, temperature 101.6°, pulse 96; at 3 A.M., temperature 101.3°, pulse 88; at 5 A.M., temperature 102°, pulse 98.

Complains of much dizziness; at 8.30 A.M. gave another 12 c. c. of serum under the skin, temperature 102.2° pulse 100; at 9.30, temperature 102.7°, pulse 100; at this hour the congestion of the face was extreme, and there was marked erythema; at 12 M., temperature 103.1°, pulse 105, perspiring and ptyalism; at 4.30 we were hastily summoned and found the patient suffering extremely from the urticarious rash, face puffed and congested, temperature 40°, pulse 110, urine abundant, copious saliva; at 6 P.M., temperature 103.2°, pulse 110, phenacetin given; at 8 P.M., temperature 101.8°, pulse 102, nausea; at 10 P.M., temperature 102.2°, pulse 104, and vomiting; at 12 M., temperature 103.7°, pulse 110, rash disappearing; at 2 A.M., October 12th, temperature 102.2°, pulse 105, urine scant; at 4.30 A.M., temperature 102.4°, pulse 105, slept well; at 6 A.M., temperature 102.4°, pulse 110; at 9 A.M., temperature 102.4°, pulse 97, perspiring; at 11 A.M., temperature, 102.5°, pulse 110; at 1.30 P.M., temperature 102°, pulse 106; at 5.30 P.M., temperature 102.8°, pulse 90, urine scant; at 7 P.M., temperature 102.6°, pulse 98; at 9 P.M., temperature 102.8°, pulse 98; at 12.30 A.M., October 13th, temperature 100.8°, pulse 88; at 4 A.M., temperature 100.2°, pulse 81, slept well; at 6 A.M., temperature 100.4, pulse 86; at 8 A.M., temperature 101.2°, pulse 83; at 10 A.M., temperature 101.6°, pulse 82; at 12 M., temperature 101.6°, pulse 85; at 2.30 P.M., temperature 101.6°, pulse 82; at 6 P.M., temperature 101.5°, pulse 83; at 8 P.M., temperature 101°, pulse 82, nauseated; at 12 M., temperature 100.2°, pulse 78; at 4.30 A.M., October 14th, temperature 99.6°, pulse 77; at 7 A.M., temperature 99.3°, pulse 76; at 9 A.M., temperature 99.2°, pulse 77; at 6 P.M., temperature 99.8°, pulse 80; at 10 P.M., October 15th, temperature 98.6°, pulse 78, discharged.

CASE III.—A. B., seaman, about thirty-five years of age, was admitted to the isolation ward at the United States Marine Hospital at New Orleans, October 13, 1898, and when seen in consultation with Dr. Faget was moribund from almost fatal suppression of urine. He was unconscious; there was hiccough and jactitation, small weak pulse, devoid of tone. In the hope that the serum would produce a renewal of the suppressed renal function, he was given 20 c. c. of serum under the skin, and although there was noticed a slight reaction in temperature from the subnormal, the kidneys did not react, and he died of a uremic seizure twelve hours after the administration.

One word as to the possibilities of this serum as outlined by Professor Sanarelli; because of its not being an antitoxin it does not tend to overcome the toxins of yellow fever produced in the system, and depends for its curative and prophylactic properties upon its germicidal influence. Hence, it is argued by Professor Sanarelli that its use will be absolutely negative in cases in which an amount of toxin has been produced sufficient to destroy life. These cases he does not attempt to treat, passing them by as out of the pale of serum influence. To those who have witnessed the successful struggle of many apparently beyond prognostic hope, there will at once arise the question of properly determining in such cases the fatal degree of intoxication which exists; therefore Professor Sanarelli advises and insists upon the early use of the serum, and thus the destruction of the organism before it has elaborated the fatal proportion of its toxin; such an exhibition of the serum invites the criticism that the mortality-rate must be that of selected cases, and, therefore, of diminished statistical value; and in an epidemic of mild type, such as the recrudescence of this fall in Louisiana, it would be contraindicated.

As to its influence in Case I. there was no doubt a very prompt reaction evidenced by the rise of temperature and pulse, and the great congestion of the face and skin of body. This was followed by a cessation of all pain in a few hours, and a fall of pulse and temperature to a point lower than before the administration. The second and third injections showed less marked reaction. The exhibition of the serum produced a free flow of non-albuminous urine, some ptyalism, and free perspiration. I am free to confess that the man would have done equally well with any ordinary medication.

In Case II. I am satisfied that the boy would have done as well without any medication. His mental and physical condition were not improved by its use. The

influence of the serum upon the vasoconstrictors was very pronounced, and caused mental and physical suffering. At first the urine was quite free, and always non-albuminous, but on the second day became more scant, yet the skin acted very freely. The rash was very general on trunk and limbs. The face, eyelids, and ears were swollen, puffed, and bluish in color, with slightly raised patches which resembled urticaria, the general surface being erythematous with scattered and intensely itchy plaques. The reaction in this case was excessive, the temperature rising to 104° F. The family requested us to desist from this treatment, and I did not object since the pulse was intermittent and dicrotic. As to the doses in these cases, I had never observed the action of the serum, and therefore refrained from the exhibition of the full dose directed by Professor Sanarelli, that of 20 c.c., and feel satisfied that the latter dose would have caused much alarm, and probably harm, in the second case reported. I regret that I have not been able to accomplish your purpose to have a full test made of this serum, but I realize that it was more necessary to arrive at a just conclusion of its merits, based on correct data, than to merely use it on uncertain cases. A more thorough test will be made at the earliest opportunity.

CORRESPONDENCE.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

THANKSGIVING WEEK AND DONATIONS TO HOSPITALS—THE CHARITY BALL—BANTI'S DISEASE—TREATMENT OF APPENDICITIS—ERYTHROMELALGIA—THE NUMBER OF SOLDIERS TREATED IN PHILADELPHIA—PERSONAL NOTES—HEALTH STATISTICS.

PHILADELPHIA, November 29, 1898.

WE seem to have had nothing but holidays lately, the Peace Jubilee celebration being scarcely over before Election and then Thanksgiving Day made another break in the regular routine of work.

Whether there is a small epidemic of a mild type of influenza or whatever may be the trouble, the peculiarly disagreeable weather of the last month has undoubtedly contributed to the vast amount of "colds" and so-called "grippe" cases which are now so prevalent here. The newspapers commented on the foolhardiness of some 20,000 people who braved the storm of Thanksgiving Day to sit two or three hours on wet, uncovered seats to witness the foot-ball game, and ventured the opinion that an appreciable increase in the amount of pneumonia, etc., would surely follow, a prediction which has been speedily verified.

Thanksgiving week was selected by many of the hospitals as donation days for receiving funds, clothing, and groceries to aid them in carrying on the large amount of charitable work in which they are engaged, Many of the smaller institutions depend almost entirely on such donations, for it seems to be a puzzling, but none the less true, fact that the smaller the institution, the greater the comparative amount of work done and yet the fewer bequests. Among Thanksgiving gifts was that of Mrs. Rebecca E. Shoemaker, who gave $5000 in five-per-cent. bonds to the Methodist Episcopal Hospital for the endowment of a free bed in honor of her mother, Mrs. Mary B. Clark. John B. Roach, the shipbuilder, gave the Chester Hospital a complete ambulance equipment, including the horse, harness, and ambulance. At the German Hospital more than $7000 was received, besides a large amount of groceries and clothing, and the Jefferson Maternity was the recipient of $500 and many gifts of food and clothing.

On January 23d the Annual Charity Ball is to be given, at which a large amount of money will probably be raised, which will be divided between the Pennsylvania Society to Protect Children from Cruelty, St. Chistopher's Hospital for Children, the Sanitarium Association of Philadelphia, and the Childrens' Department of the University Hospital. Among the members of the executive committee are the following physicians: Drs. Edward P. Davis, Hobart A. Hare, Barton C. Hirst, William Barton Hopkins, and John B. Shober.

At the College of Physicians last week, Dr. Henry Morris presented an interesting case of Banti's disease, which had occurred in a man aged twenty-one years. While a differential count of the blood showed practically no changes in the normal proportion, a numerical count of the erythrocytes showed a decrease to 1,400,000 with a percentage of hemoglobin of only twenty-seven. The spleen was enormously increased in size, the liver small, the urine normal except for an excess of urates, and there was no change in the lymphatics or in other organs. Dr. Hare said that the man had previously been under his care and that the blood then showed an increase in the number of lymphocytes and had a tendency to change, finally, however, assuming the appearance of pernicious anemia. Dr. Ashton, who had made the blood examinations, said that the blood had shown poikilocytes, normoblasts, megaloblasts, nucleated red cells, and other typical characteristics of pernicious anemia toward the last. Further discussion, which followed, served to bring out the difference of opinion held as to the classification of anemias and the unsatisfactory and inaccurate division.

Dr. H. B. Allyn outlined the "Medical Treatment of Appendicitis," in which he urged abstinence from food for twenty-four to forty-eight hours, gentle purging, and operative interference at the end of twenty-four hours if there is no improvement. He too, in common with most practitioners, advises against the use of opium, believing that it masks the symptoms, and only uses codein to take the edge off the pain when it is very severe.

Dr. S. Weir Mitchell and Dr. William G. Spiller reported an interesting case of erythromelalgia, only one other case having been reported with pathological changes since 1872, when the disease was first described. The signs of the disease were confined to the great toe, and upon amputation the nerves were found degenerated. Arteriosclerosis was present, and the bones of the toe were apparently enlarged.

The Hospital Committee of the National Relief Commission held a meeting last week at which representatives

of the various hospitals and Major D. C. Peyton, representing the Government, were present. It was determined that payment shall be made at the rate of $1 a day for each soldier treated, the Government settling the bills on that basis, and a vote of thanks was passed for the courteous treatment given to the hospitals by the Department as well as for the courtesy and kindness of Major Peyton. A report which has been prepared shows that 2860 soldiers were treated in this city up to November 1st, while the present number is about 3500, and the total amount due the hospitals is between $150,000 and $175,000. Pennsylvania, as a whole, has cared for about 5000 soldiers in her hospitals, of which about 100 have died, a mortality of 2 per cent.

Dr. George Lessmann, who was wounded at Santiago, is now ill with typhoid fever at the Lafayette Hotel. He served on the hospital-ship "Relief" and later in the division hospital at Ponce.

Dr. William H. Bell, assistant surgeon, U. S. Navy, has been ordered to Washington from the Naval Hospital on Gray's Ferry Road, Philadelphia.

J. J. Rosengarten, one of the trustees of the University of Pennsylvania, has presented an oil portrait of the late Dr. Pepper to the University Library, where it will be placed in the Pepper alcove.

Dr. A. O. J. Kelly has resigned the chair of adjunct-professor of pathology at the Philadelphia Polyclinic. No successor will be appointed, as it has been determined to abolish this chair.

The total number of deaths occurring in Philadelphia for the week ending November 26th, as reported at the Health Office, was 449, of which 121 occurred in children under five years of age. The number of new cases of contagious diseases was 247, reported as follows: Diphtheria, 129 cases, with 33 deaths; scarlet fever, 28 cases, with 1 death; typhoid fever, 90 cases, with 10 deaths.

MEDICAL MATTERS IN CINCINNATI.

[Special Correspondence of the MEDICAL NEWS.]

THE NEED OF A REFERENCE LIBRARY AT THE ACADEMY OF MEDICINE—PROSECUTIONS OF QUACKS—CINCINNATI HOSPITAL AFFAIRS.

CINCINNATI, November 28, 1898.

THE question of the erection of a fire-proof building for the exclusive use of the Academy of Medicine and for the formation of a library is one that periodically engages the attention of the profession in Cincinnati. The interest in the subject, however, has been spasmodic for the most part and productive of no results aside from the collection of a small building fund. The necessity and advantages of such a central club-house and library for the medical profession needs no argument; but in Cincinnati there seems to be an especial reason in our present library facilities for such centralization. In the first place the Academy of Medicine has been the recipient of numerous valuable library bequests, for the care of which it has no facilities; and secondly, our advantages in the direction of a reference library are very inferior. The Cincinnati Hospital library is large and of great value, but the hours during which it is open are so arranged that the busy doctor can rarely consult it without great inconvenience, a condition most unfavorable to scientific work. Furthermore, this library is peculiarly liable to destruction by fire, both because of its location in a general hospital, and of the presence of a large carriage and wheel factory not fifty feet distant. The City Library likewise contains a valuable collection of medical works which are also inaccessible in many ways. Should the Academy of Medicine construct a modern fire-proof building it would be possible to concentrate these valuable collections into a magnificent library that would be a credit to this great medical center. Many private libraries would certainly be donated to the Academy at once and others would be deposited for safe keeping, until the profession of Cincinnati would have reference facilities second to those of no other city.

The epidemic of smallpox which has been prevailing in Loveland, Ohio, is now under control after several weeks of rigid board-of-health regulations. The cases have all been mild, and have presented many difficulties in diagnosis, a confusion with chicken-pox being the chief feature. The epidemic nature of the form of coryza that has been prevailing for the past few weeks in this city cannot escape notice, and a bacterial origin seems to be its only explanation.

The meeting of the Research Society on November 10th was of unusual interest in the abundance of material which was presented. Dr. Langdon demonstrated a specimen of interpeduncular tumor of a confusing histologic structure. Dr. Rowe presented histologic specimens of the appendix vermiformis, gastric mucosa, and of cartilage, and Dr. Freiberg specimens of carcinoma of the bladder, sarcoma of the hard palate, and carcinomatous tissue taken at random in closing the wound after amputation of the breast.

The cases of illegal practice of medicine by non-registered physicians, as investigated and brought to trial by the State Board of Registration, will be heard in the courts during the second week in December. The prosecution of Dr. Campbell of the Fairmount Sanitarium and his followers in vitapathy will make up a goodly number of these cases. Certain female abortionists of the city will probably also be convicted. Recent evidence has been gained against Dr. France, the quack on "weakness in men," and against the "osteopathic" school in Toledo. Mrs. Harriet Evans, the Christian-Science healer, is under arrest both by the city authorities and the State Board of Registration, for the death of a certain McDonald, who died recently while under her care.

At a special meeting of the Cincinnati Hospital trustees, held on November 17th, the present medical staff of the institution was re-elected for another year, with the exception of the officers connected with the department of dentistry. In this department Dr. H. A. Smith will be succeeded by Dr. H. C. Matlack. The change was made because of the resignation of the former. Prior to the election the board discussed at length the present needs of the hospital. The necessity of an isolation ward, which has been apparent to the board for years, and which is no nearer being realized than it was when the subject was

first introduced, was gone over, as was that of the nurses' home and the needed additions to the branch hospital. A year ago plans were drawn for important additions to the hospital, and the board sent a committee to confer with the Legislature and ask for an appropriation to make the improvements, but the suggestion was turned down. The fact remains that these additions are necessary for the protection of the public, and they engross the attention of the board as deeply as ever. It was decided to sell the old surgical instruments now in use in the hospital amphitheater and to purchase new ones.

On November 30th, Dr. Horace J. Whitacre will begin a series of lectures on "The History of Medicine," at the Medical College of Ohio, which will be open to the profession. They will be profusely illustrated by lantern-slides.

MEDICAL MATTERS IN CHICAGO.

ACCESSIBILITY OF MEDICAL LITERATURE—DIAGNOSIS OF CHRONIC DIFFUSE PERITONITIS—TRANSPLANTATION OF THE SKIN—DR. NICHOLAS SENN'S EXPERIENCE IN SURGICAL DISEASES OF THE SPANISH-AMERICAN WAR—ENTERIC DISEASES OF ARMY CAMPS IN RELATION TO LIFE INSURANCE—EPIDEMIC CEREBROSPINAL MENINGITIS IN CHICAGO.

AT a meeting of the Chicago Medical Society, held November 9th, DR. EDWARD F. WELLS read a paper on "The Accessibility of Medical Literature." He said the extent of the medical literature of the world is known to but few; the volume of that which is being currently produced is appalling to the librarian; the inaccessibility of much of it is painfully evident to the practising physician. It is beyond the financial ability of the last-named individually to procure and care for it; it is a physical impossibility for him to read any but a very small fraction of it; even the titles he cannot compass. Nevertheless, it is the active medical practitioner for whom the greater portion of this printed matter has been prepared and to whom it is a real necessity. Public medical librarians have more than once complained that the vast stores of medical records which they have accumulated, and maintain at great expense, are not made use of to the extent which their importance would seem to demand and wonder why. The conditions under which the practising physician labors confine him closely to his residence or office; here he may have ample time for reading, but the time necessarily occupied in consulting a volume of the library, probably a long distance away, can only be spared at great inconvenience or actual loss. Under these circumstances the great majority of would-be students, after a few trials, adjudge the plan an impracticable one for them and attempt to meet their necessities in other ways. There are various methods, and thoroughly practicable ones, too, by which medical literature may be made more accessible, namely, the Denver plan of mutually accessible private libraries, journal, and new-book clubs; the combined circulating and reference public library. He believes the scope and usefulness of a public medical library may be extended by allowing the books to be removed, for a short time, from the library building. The physician desiring to use the library in this manner should be required to make formal application for the privilege. By this plan, properly elaborated as to detail, every physician's office may, with proper restrictions, be made practically a branch of the reading-room of the library.

At a meeting of the Chicago Academy of Medicine, held November 11th, DR. FRANK X. WALLS read a paper on "Diagnosis of Chronic Diffuse Peritonitis," in which he said that much discussion has arisen as to the existence of a simple, non-tubercular, exudative peritonitis, though cases have been described as occurring more frequently in children by Strümpell, Henoch, Baginsky, Filatoff, and others. There is no reason *a priori* why a chronic, simple inflammation of the peritoneum should be denied, even though the condition is admitted to be infrequent. The disease develops insidiously, often after a history of trauma or exposure. Pain and abdominal distention are the most prominent symptoms, directing attention to the peritoneum. The differential diagnosis should exclude tubercular or cancerous peritonitis and ascites. Osler and Baginsky have reported each a case of chronic peritonitis in which tubercle bacilli were demonstrated in the lesions during the early history of the disease, but later, when the case came to autopsy, careful search for bacilli or characteristic tubercular processes by competent pathologists was negative. The deduction is warranted that the absence of bacilli or tubercles in a chronic peritonitis is no indication that the morbid condition was not initiated by the bacillus of tuberculosis, and also that autopsical negative findings are quite consistent with a previous tubercular infection. He reported an interesting case of the disease illustrating the sign of Thomayer.

At the same meeting Dr. L. Loeb read a paper on "Transplantation of the Skin and the Origin of Pigment of the Skin." Experiments were made on the ears of guinea-pigs. White skin was put on a wound in black skin, and black skin on a wound in white skin. The experiments prove that the pigment of the black skin is not carried into the epithelium through cells from the connective tissue, but that it has its origin in the metabolic changes of the epithelial cells alone.

At a joint meeting of the Chicago Medical Examiners' Association and the Chicago Medical Society, held November 16, 1898, Dr. Nicholas Senn spoke on the "Surgical Diseases of the Late Spanish-American War," with a view of estimating the war risk of life-insurance companies. He said that the late war had been characterized by decisiveness and by intense patriotism on the part of the troops; while he had reason to believe that the opposite mental conditions prevailed in the Spanish camps. The American troops had to deal with an impoverished, half-starved, discouraged enemy, which he thinks accounted largely for the easy victories and the short duration of the war. He attributes the repeated victories on land and sea more to the soldiers than to any special military genius displayed by any of the commanders. The loss of life on the battle-field, or as the immediate or remote effects of wounds, did not exceed 400. The loss in battle in Cuba was 267. A number of the most seri-

ously wounded have died since. In Porto Rico, where there were four skirmishes, the number killed did not exceed 20, and the number of wounded was not about 40. The Spaniards were armed with Mauser rifles exclusively. He had abundant opportunity to compare the injuries inflicted with the Krag-Jörgensen rifle and the Mauser rifle, and the wounds differed very little. If any, the Mauser rifle was a more humane one, owing to the smaller caliber of the missile. The stopping power of these guns has been overestimated as every hunter of large experience knows. In examining from 1200 to 1300 of the wounded he was astonished at the limited zone of contusion of the soft parts, which explains very satisfactorily the readiness with which these wounds healed, provided no infection occurred. There is a zone of comminution from both weapons at a range of about 500 yards. He found in two cases among the Spanish prisoners shot with the Krag-Jörgensen rifle, gunshot wounds of the femur at the junction of the lower with the middle third; in both instances infection had occurred. The patients suffered from progressive sepsis; amputation was indicated and promptly performed in a most primitive way, outside of the Spanish column, in the hot, broiling sun, there being no way of effecting disinfection of the dressings, instruments, etc., except with a kettle of questionable cleanliness. Heat was resorted to exclusively in effecting sterilization. At a certain range he is satisfied that bullets from both of these rifles will inflict injuries to the long bones and produce more or less comminution. In one instance a young soldier was shot through the tibia two inches above the ankle-joint with a Krag-Jörgensen rifle and the hole through the bone resembled very much one made with an ordinary drill. The shot was fired at a range of a thousand yards, but there was no comminution whatever.

The value of the first-aid dressing cannot be overestimated. In Cuba the military surgeons were hampered in their work by lack of dressing material; also, imperfect ambulance facilities. Hundreds were wounded and nearly 300 were killed in three days; consequently the medical department was taxed to its utmost capacity in taking care of the wounded with the limited facilities at its command. In this war, with an insufficient number of medical officers at the front as shown at the time, men occasionally had to wait for hours, and in a number of instances more than a day before they were picked up and the first dressing applied. It was in those cases that suppuration most frequently occurred. In Porto Rico it was different. General Miles, who had command of the invading army, took every precaution looking to the welfare and the efficiency of the medical service. He felt the need of a medical adviser and often consulted him. The reverse was the case in Cuba. In Porto Rico affairs were conducted near the fighting line. The ambulance corps was in readiness and ambulances were to be had in abundance. The moment a man was shot he was carried to the rear and a first-aid dressing, always on hand, was properly applied, and of about forty cases of all the wounded brought back from Porto Rico on the hospital-ship "Relief," there were only two cases of suppuration, a remarkably small percentage, proving conclusively the value of a timely, efficient, first-aid dressing in preventing wound infection.

The small-caliber bullet hardly ever, if ever, carries with it pieces of clothing or any other infectious substance. The bullet itself is practically aseptic. In the majority of cases where wound infection occurred it was due to the subsequent too frequent change of dressings and unjustifiable attempts to probe the track of the bullet. It is unjustifiable, certainly unscientific, to resort on the battle-field to the probe as an instrument of diagnosis.

He has seen a number of cases of gunshot wounds of the abdomen recover without laparotomy. He believes he was the first one to place himself on record years ago, that a man shot through the abdomen from before backward on a level with the umbilicus or above, has a fair chance of recovery without operative interference. It is in those cases that the intestinal canal not infrequently escapes injury. In four out of sixteen experiments, made for the special purpose, careful, subsequent examination of the contents of the abdomen showed absence of visceral lesions which would have demanded a laparotomy. Such are the cases that recovered during the late war. In almost every instance the bullet wound was on a level with or above the umbilicus. The reverse was the case when the bullet traversed the abdominal wall below the umbilical level, and particularly if it passed through the abdomen transversely or obliquely.

There is one part of the surgical treatment of the wounded which was imperfectly performed, *viz.*, the want of early immobilization of fractured limbs. At the front he could find no plaster of Paris, which should always accompany a fighting army. At Siboney he was furnished with plaster of Paris, but it would not set. Plaster-of-Paris dressings, therefore, the sheet anchor of the military surgeon in the treatment of compound fractures, were lacking or imperfect. Surgeons had to do the next best thing—search for splint material, and fortunately, in Cuba, Nature was very kind to the military surgeon in this respect. The supply of wire splints was limited, but the cocoa palm was abundant, and in the sheath of the cocoa-palm leaf is found a most excellent material, in that it is somewhat plastic and porous; it was utilized to great advantage in the immobilization of gunshot fractures.

In contrast to the experience in the Civil War he found in the Spanish-American War that penetrating gunshot wounds of the knee-joint, of the hip-joint, and of the larger joints, recovered promptly, never proved fatal in the absence of wound complications. The men recovered, as a rule, with useful joints.

When he came to Montauk, where he was on duty for four weeks, he had an excellent opportunity to study the conditions of the returned soldiers, of which there has been so much said, particularly in the yellow press. At this camp he did surgery of a peculiar kind, and his experience there perhaps would be of more value to life-insurance companies and their medical examiners than what he said in reference to gunshot wounds. When the

army of Cuba returned, it was an army of patients, not of soldiers. They were all anemic, emaciated, and, with few exceptions, brought with them, as an undesirable inheritance, malarial intoxication. In almost every instance physical examination showed enlargement of the spleen. As the result of infective substances in the gastro-intestinal canal, he met at Montauk with numerous instances of surgical affections directly traceable to intestinal infection. He found a number of instances of enormous ischiorectal abscess, anal fistula, hemorrhoids, ulceration of the rectum, varicocele, and hernia. The prevalence of peri-anal and para-rectal suppurative processes is justly attributable to antecedent attacks of catarrhal proctitis, from which almost every one of the soldiers suffered at one time or another. It was at Montauk where he believes he was of most service to the troops, being placed in charge of the surgical department of an enormous national camp filled with thousands of sick soldiers.

He is positive, as far as the Illinois troops are concerned, that not a single private was sent to the front with hernia. Exceptions were made in the case of officers. Speaking of privates, the examination of them was so rigid that he was sure not a single hernia escaped attention, and yet some of the men are coming back with hernias. He was astonished at Montauk at the number of cases of hernia that the soldiers claimed to have contracted during their short service. What is the cause? The fact remains, that the men were never exposed to forced marches; the longest march in Cuba was from Siboney to the front at Santiago, a distance of nine miles. The prevalence of hernia in the returning soldiers must he ascribed, therefore, to the debilitating effects of the campaign and of disease; to the relaxing influence of the climate; to the disappearance of fat in the region of the inguinal canal. In the near future many of the mustered-out men will apply for pensions for the defect he has just mentioned. In an examination of ten thousand men at Camp Tanner, he found varicocele with great frequency in men of military age, as from eighteen to forty-five. At least twenty-five per cent. of the applicants for military service were affected with varicocele. In not more than two hundred out of the ten thousand did the enthusiastic and ambitious recruits acknowledge that they experienced any inconvenience from this affection. He, therefore, believed at that time that varicocele of moderate size, without symptoms, should not disqualify an otherwise well-built man for military service. He has every reason now to believe that the position he took then was the correct one, judging from his observations of the men who are returning.

DR. WILLIAM CUTHBERTSON read a paper on "The Enteric Diseases of the Army Camp in Their Relation to Life Insurance." He said it was the province of the life-insurance examiner not only to pass upon the present condition of the applicant's health; the probability of his dying in a short time from some acute disease, but also as to the probable effect on his life expectancy of any disease the applicant might have had. Camp diarrhea and dysentery are two of the most important of these diseases. The history of all armies operating in all parts of the world shows that camp diarrhea, typhoid fever, and dysentery are the most prevalent disorders. They exist to a greater extent, however, in campaigns in very warm or hot countries. The records of our Civil War show that diarrhea and dysentery were more frequent and fatal in the Central region than in the Atlantic and Pacific regions. On the contrary, in civil life intestinal inflammation is more prevalent in the Northern, Middle, and Western States, than in the Southern. During the recent Spanish-American War, while his regiment, the First Cavalry, was stationed in Illinois, the universal intestinal complaint was constipation; while almost immediately after their arrival at Chickamauga Park, Georgia, diarrhea began. This was so invariably the case that whenever a batch of recruits arrived from home, one would hear a member of the Hospital Corps remark, "There comes more diarrhea." The summer months of June, July, and August are those in which the greatest number of cases occur, and the mortality is the highest.

Enteric fever proved to be the scourge of the late Spanish-American War. The greatest mortality did not occur where expected, namely, on a foreign soil, from bullet wounds and yellow fever, but right at home in large camps, where every appointment should have been up-to-date, with every appliance modern sanitary science could devise. This deplorable result can be directly chargeable to the Medical Department of the Regular Army.

A wet soil, damp weather, the presence of large quantities of fecal and decomposing matter, and large numbers of men congregated together, furnish a beautiful combination of circumstances for the development of this disease. The presence of hucksters in the camp seemed to be responsible for the spread of typhoid fever in no small degree. The eatables which they hawked from regiment to regiment, became infected, and in this way was the disease transmitted. At Camp Thomas, Georgia, part of the water-supply was taken from the Chickamauga River, the intake pipe being situated only a few yards above the point where one of the large camp drains emptied into the river. The rest of the water-supply of this camp was obtained from springs and wells located in different parts of the grounds, which soon became infected from the leakage through the already infected soil. Finally, the men themselves invited an attack of typhoid fever by their mode of living. They slept on the ground, very often four in a tent, the tent poorly ventilated, and very frequently closed up all day. They would do this in spite of all orders and warnings. They would buy food from hucksters and drink river water, in defiance of all advice to the contrary. Not only the water, but the soil, and even the air of these large camps were undoubtedly infected with the typhoid bacillus.

The average mortality of selected risks—and all the soldiers in the late war could be classified as selected risks—is four or five per one thousand per annum. The latest returns show the mortality of the American Army to have been ten per one thousand for a period of six months, or four to five times greater than it should be. These percentages should settle definitely the question of

the desirability of the soldier as an insurance risk in the negative. Our woods and plains teem with good material for soldiers; we have an unlimited number of first-class medical men and sanitarians. When the army is reorganized it will be put in such a condition that during any future campaigns the life and health of the soldier will be as well protected as if he were under his own vine and fig-tree.

In the October "Bulletin" of the Department of Health, City of Chicago, recently issued, there appears an abstract of a very elaborate and exhaustive report by Dr. William J. Class, medical inspector, on the recent appearance of cerebrospinal fever (epidemic cerebrospinal meningitis of Stillé) in Chicago, 1898. The full report will appear *in extenso* in the annual report of the Commissioner of Health. Thirty-eight cases are cited which occurred under the observation of a number of skilled diagnosticians. All uncertain and doubtful cases were eliminated. We give a condensation of some of the important features of the cases, not less as a timely contribution to the study of a disease which may yet claim the serious attention of sanitarians and health authorities in this country, than as an index of the quality of the work done and the interest and ability displayed by the members of the medical staff of the Chicago Department of Health.

Although the symptomatology of cerebrospinal fever has been exhaustively treated in descriptions of epidemics occurring elsewhere, yet as almost every epidemic offers some distinctive feature, a closer and more careful consideration of the symptoms met with in these thirty-eight cases may be useful. Headache was found present in all of them where a complete history could be obtained, it affecting the entire head, being most severe in the occipital region. In four cases severe backache caused the greatest distress to the patient. In three instances abdominal pain was noted; in two cases there was hyperesthesia of the greater part of the body, so intense in one case that the slightest touch would throw the patient into convulsions. In one case the pain was chiefly referred to the chest, without there being any objective signs of any diseased condition in the thoracic viscera; another patient complained of boring pain in the bones, resembling that of osteomyelitis. Tenderness in iliac and splenic areas was noticed in one case. Attempted flexion of the head usually caused pain. Chills, as an initial symptom, occurred in seven out of the thirty-eight cases. In two cases the patients had complained of a chilly sensation several days before the onset of the acute symptoms. In one case a chill, lasting thirty minutes, occurred on the third day of the disease. The majority of the cases beginning with a chill ended fatally. Vomiting, one of the most constant initial symptoms of the disease, occurred in twenty-six cases at the onset, while in four cases it occurred during the first days of the disease. The tongue was coated in the majority of cases. Trembling of the tongue was noted often on its being protruded. This is considered of great diagnostic value. In six cases diarrhea occurred; in nine constipation. The writer emphasized the symptom of difficulty in swallowing. It was noticed in six cases, each of which ended fatally. It must, therefore, be considered as a grave omen in the prognosis. Herpes labialis was the most prominent skin lesion, and was present in twelve cases. One case showed a papular eruption; another a reddish-brown macular eruption. Petechial patches were noted once. Tache cerebri was found in a number of the cases. In thirty cases there was retraction of the head, varying in degree. The eyes were more or less affected in a large proportion of cases. The ocular manifestations varied from a simple congestion of the conjunctiva, which occurred in six cases, to trophoneurotic ulceration of the cornea and destruction of the eye in one. In two there was purulent conjunctivitis. One showed on ophthalmoscopic examination a cupped disc. The pupillary symptoms were not constant; in five cases they were dilated; in two of these the dilatation was more marked in one eye than in the other; they were contracted in four. Dilated in one eye and contracted in the other in one case. Nystagmus was observed five times; paralysis of the muscles of the eyeball once, the eye remaining fixed. Strabismus occurred in four cases, in one instance being transitory. Paresis of the right external rectus was noted once. In one case there was absolute blindness extending over a considerable period of time without any apparent lesion to account for it. Puffiness of the eyelids occurred in two of the cases, and diplopia once. Photophobia was observed in a comparatively small number. In twenty cases the patients became delirious; robust young men violently so. In some instances hallucinations were present resembling those of delirium tremens. In two cases the mental faculties were seriously impaired after recovery from the acute symptoms had taken place. Paralysis of all of the voluntary muscles of the body was observed in two cases shortly before death. Paralysis of the facial muscles on the left side was also noted in two instances, and paralysis of the right hand once. In two cases contractions of the muscles occurred. In three there was muscular twitching, chiefly in the extremities. Tremor of the hands was observed in two instances. Involuntary evacuations of urine and feces during the course of the disease was noted in six of the cases. Subsultus tendinum was found twice. Convulsions were rare in adults, but frequently at the onset in children.

The state of the reflexes was not constant; as a rule, they were not perceptibly altered. In five cases the knee-jerk was exaggerated, and in three it was diminished. In one it was entirely absent, while in another it was absent on one side and increased on the other. The cremasteric reflex was absent in one case; increased tricipital reflex was noted in one instance. The causation of this variation in the reflex action has never been satisfactorily explained.

In twelve cases there was retraction of the abdominal walls, producing the condition described as "boat-shaped." Tympanites was present in three cases, and in one of these the abdomen was markedly tender. Splenic enlargement was observed in four cases. The liver was found enlarged in two instances. Gurgling in the iliac fossæ was elicited in two cases examined for this rather unreliable symptom.

Joint affections were encountered in five cases, varying in severity. The joints chiefly affected were the wrists, and next the ankle-joints. A careful blood analysis was made only in a limited number of cases; in all instances leucocytosis was found to exist. In one case pigmented leucocytes were found, together with a few extra-corpuscular bodies containing pigment. Widal's test was generally negative, although in one or two instances a partial reaction was noted. In seven of the cases the urine was albuminous; in one sugar as well was present. An excess of earthy phosphates was noted once. In none of the cases where albumin was discovered were casts found. Cylindroids were found in one case, the urine being otherwise normal.

True lobar pneumonia, as a coincident lesion, was noted in two instances; in both, however, the symptoms of meningitis predominated. Other symptoms were found in five cases, chiefly diminished resonance, which could not be properly explained; this condition was encountered in three cases. A blowing systolic murmur at the apex beat occurred in two cases. Cheyne-Stokes respiration was noticed in one case during the course of the disease, and in several instances shortly before dissolution took place.

The pulse and temperature curves presented the same variations as those described by Wunderlich. The initial symptoms were accompanied by a rise in temperature; this rarely exceeded 102° F. during the first forty-eight hours. In some cases this initial rise was followed by a period of three or four days during which the temperature would remain normal, after which there would be another rise. An ante-mortem rise in temperature was noted in three cases, in one of which the axillary temperature was 109° F. There was no relation between the temperature and the pulse. The characteristic feature of the pulse in epidemic meningitis is its slowness, although this rule is not constant. In one instance the patient had a temperature of 105° F.; the pulse at the same time was only 80. Within a few hours previous to death there was, as a rule, a great increase in the frequency of the pulse, even in those cases where it had been slow during the course of the disease. In volume the pulse was usually full; a dicrotic pulse was seldom met with.

Ear troubles, on which special stress has been laid by previous observers, were only noticed in a small number of cases. Some deafness was encountered comparatively often, and in one or two instances suppurative middle-ear disease, but aside from these there was an almost complete absence of aural complications. Lesions of the nasal and pharyngeal mucous membranes were also infrequent in their severe forms, although redness or a slight catarrhal condition occurred in a number of the cases. Epistaxis was found in one instance. Bulging of the fontanels occurred, as a rule, in younger children, in one case the intracerebral accumulation of fluid causing a considerable increase in the circumference of the skull. In protracted cases convalescence usually found the patients greatly emaciated and exhausted, from which they recovered very slowly, some of the young children, in fact, succumbing from inanition after the acute symptoms had subsided.

The average duration of the cases with recovery was four weeks. Some ran a much shorter course, recovery taking place within two weeks, while in others it was delayed from six to eight weeks. Relapses were noted in several instances. In the fatal cases death usually took place within two weeks. Cases of "meningitis cerebrospinal siderans," in which death takes place within a few hours or days, were very rare during the epidemic. Of the thirty-eight cases described, twenty-five ended fatally, a mortality of sixty-five per cent. This figure is far from correct when applied to the entire number of cases in the city, as meningitis is not properly a "hospital disease," comparatively few cases being sent to the hospitals, and these only where the disease was severe. This explains the apparently excessive mortality, as the cases were almost exclusively taken from hospital records. Mild cases not requiring hospital care were very frequent, and if these were averaged up with the more severe cases the total mortality would probably not exceed twenty per cent.

During the Chicago epidemic fifty-one houses where cases of meningitis had occurred were inspected. In twenty-one of the houses or their surroundings unsanitary conditions were found; in some instances very bad. In one house where a fatal case occurred nine families were living in a ten-room house which was littered with filth of every description. Defective plumbing was discovered in a number of instances, and remedied through the Health Department. In eighteen of the houses the sanitary condition was fair, while twelve were in a good condition. The majority of the cases occurred in the poorer quarters, inhabited chiefly by foreigners.

From a consideration of the present knowledge of epidemic meningitis the writer arrives at the following conclusions:

1. Epidemic cerebrospinal meningitis is to be classed among the contagious diseases, belonging to the same category as phthisis pulmonalis.

2. Unsanitary conditions exert great influence in affording a proper nidus for the growth of the germs of this disease.

3. Health authorities should receive notice of the occurrence of a case of this disease, in order that sanitary defects may be remedied.

4. Persons afflicted with this disease should, whenever possible, be isolated, and all evacuations should be rendered sterile by the use of antiseptics.

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

INJECTION OF GELATIN SOLUTIONS TO CURE ANEURISMS—DIVISION OF CARDIAC ADHESIONS—RESECTION OF THE CERVICAL SYMPATHETIC FOR EXOPHTHALMIC GOITER—CANCER OF THE PELVIC COLON—COMPRESSION OF THE HEART FOR SYNCOPE—POISONING FROM SALICYLATE OF SODA—SCURVY FROM STERILIZED MILK—TWELFTH FRENCH CONGRESS OF SURGERY.

AT the Academy of Medicine October 31st, LABORDE said that the fatal results which have sometimes followed the injection of solutions of gelatin for the cure of

aneurism may be due to the presence in the solution of little solid particles, which, acting as foreign bodies in the circulation have excited coagulation in different vessels. This has been accomplished experimentally in animals when the gelatinous solution has been injected into a vein. One ought to use extreme care to obtain the purest possible gelatin and to make the injections either into the aneurism itself or into its immediate vicinity.

LANCEREAUX denied the presence of solid particles in gelatinous solutions, and said that this theory was unsupported by evidence. If the solutions are injected subcutaneously they are not introduced immediately into the veins but are absorbed by the lymphatics and passed through them into the blood without exciting coagulation. In order that blood should coagulate two things are necessary, viz., that the wall of the vessel in which it is contained should be imperfect, and second, that the flow of blood should be sluggish. These two conditions are realized in the aneurismal sac but not elsewhere in the circulatory apparatus. There is every reason to believe, therefore, that the coagulation is confined to the aneurism.

At the Surgical Society, October 26th, DELORME advocated the division or the destruction of adhesions between the heart and pericardium when such adhesions cause grave symptoms. Numerous autopsies show that the separation of such adhesions without damage to the cardiac muscle may be easily accomplished provided they have not existed too long. Autopsies upon old people where the adhesions have been in existence for many years show that under certain circumstances their division would be practically impossible, but if the adhesions are well localized, even though old, they might be safely divided. If the clinical signs show beyond a doubt that adhesions have formed between the heart and pericardium, a linear pericardotomy is indicated. An incision 2½ to 3 inches in length is made at the level of the fifth costal cartilage, and the pericardium is opened horizontally a little above its attachment to the diaphragm. The superior margin of the wound being lifted, an attempt is first made to free the right side of the heart from adhesions. If they are everywhere present but are capable of easy division a second linear incision may be made in the fourth interspace, and the fourth section of the costal cartilage resected if necessary, with possibly a portion of the third. Adhesions which are not general should be sought out with the finger and divided with blunt-pointed scissors. If the adhesions are too extensive and firm to allow of separation, the pericardium should be divided on a level with the diaphragmatic attachment clear to the apex of the heart. Even this slight operation will be found of great benefit.

TERRIER said that in several operations upon the heart, incisions far greater than that proposed by Delorme had been made without difficulty. Even a portion of the sternum has been sacrificed. In conclusion he said that he believed that one need not hesitate to make an incision of whatever length is necessary to meet the conditions.

GERARD-MARCHANT spoke of partial or total resection of the cervical sympathetic nerve for exophthalmic goiter. He reported seven cases of his own and thirty of other surgeons. It is by no means easy to find the cervical sympathetic. Three ways of doing this have been proposed; one anterior to the sternomastoid muscle, one through this muscle, and a third posterior to it. The last is the best. By this route the jugular is exposed and plenty of room is easily obtained by simply dividing the superficial fascia up to the mastoid process if necessary. The common carotid and the pneumogastric come into view, or if not they must be found before search is made for the sympathetic nerve. The superior cervical ganglion is usually found without difficulty and from it the nerve cords may be traced downward and removed. Statistics seem to show that a partial resection of the cervical sympathetic gives equally as good or even better results than a total resection. Of the thirty published cases, twenty patients were benefited by operation. The speaker himself had two complete cures, two improvements, two failures, and one death. Taking the whole thirty-seven cases together there were five deaths in a short time and three at a later period. Four of the early deaths were caused by influenza-pneumonia, pulmonary congestion, syncope, and erysipelas. The fifth occurred in an alcoholic subject on the third day after operation. It was preceded by febrile symptoms and an extreme amount of agitation. In view of these facts, the operation in itself cannot be considered a particularly dangerous one, and when it is taken in account that the disease is in itself fatal sooner or later, and is associated with very grave complications, such as disturbances of the vision, one ought to advise operation when medical treatment has failed. Three operations have been practised for exophthalmic goiter: exothyropexy, devised by Poncet, and now given up by him; thyroidectomy, which according to the published statistics, has given few cures and a considerable number of sudden deaths from operation, and partial resection of the cervical sympathetic which, under these circumstances, is a valuable method of treatment.

At the session of November 2nd, QUENU discussed cancer of the pelvic colon. He divided this portion of the large intestine into three parts: the ileopelvic colon, which is relatively immovable, the sigmoid flexure properly so called, and the rectosigmoidal. Cancer in this third portion may be touched with the finger, even though five or six inches above the anus. The symptoms it produces are practically those of cancer of the rectum. Cancer of the ileopelvic colon gives an iliac tumor which may easily be mistaken for inflammatory thickening, by no means uncommon in this situation. Inflammatory thickening is smooth; that due to the neoplasm is uneven. Owing to the mobility of the sigmoid flexure cancer in this situation gives rise to a variety of symptoms. Abdominal palpation is pretty accurate in very thin patients. In stout ones such a tumor may escape the examining fingers. If the case is a doubtful one, it is better to resort to an exploratory operation rather than by delay to run the risk of metastasis. In a few rare cases the tumor

has escaped observation, since its growth was only sufficient to make good the atrophy of that portion of the intestine. Such a tumor may escape recognition even when an exploratory laparotomy has been made. Quenu cited such a case occurring in his own practice, where at autopsy there was found a small circular cancer of the sigmoid.

TUFFIER, encouraged by the success which has been obtained in dogs, by rhythmical compression of the heart for cardiac syncope, applied the same method to a man aged twenty-four years. This patient was operated upon for acute appendicitis. All went well until the fourth day. Then during the surgeon's visit the patient was attacked with syncope, and the heart absolutely stopped beating. Artificial respiration, combined with rhythmical traction of the tongue, failed utterly. The third intercostal space was incised, the pericardial sac was opened, and the ventricles were compressed between the thumb and finger some sixty or eighty times, when the arterial pulsations returned, and the patient opened his eyes. They ceased again in two or three minutes, but once more returned after the heart had been a second time subjected to compression. The pulsations, however, soon ceased, and did not return in spite of every effort. The autopsy showed that there was a large clot in the pulmonary artery.

HENNEQUIN presented a report upon the treatment of old dislocations of the shoulder. He advocated operation only in exceptional circumstances. Experience showed that success often followed a second or third attempt at reduction, even when previous attempts made with an anesthetic had failed. This treatment ought, therefore, to be very thorough before operation is resorted to. The fibrous tissues which offer resistance to reduction appear to form less rapidly in women than in men, hence attempts at reduction of dislocations in women may be successful several months after the accident.

SCHWARTZ mentioned an interesting case of intestinal obstruction which developed in a pregnant woman aged thirty-two years. Operation was performed, and a loop of small intestine was found firmly fixed behind the uterus by old adhesions to the broad ligament. With the separation of these adhesions gas and fecal matter passed through the intestines, and the patient recovered. The five-month's-old fetus was expelled the night after the operation.

At the Medical Society of the Hospitals, October 28th, RENDU said that a woman aged thirty years had been given 6 grams (90 grains) of salicylate of soda, to be taken in six doses through the day. She had suffered about six weeks from an acute attack of rheumatism, with high fever and much pain, but neither cardiac nor renal complications were present, as far as could be observed. The following day she felt much better, and the fever was abated. The joints were still swollen and painful, and the medication was continued until eight o'clock that evening. Without warning the patient suffered a chill, and then became violently delirious, having hallucinations of sight and hearing. This delirium persisted for thirty-six hours, and then disappeared. The patient was absolutely without recollection of anything that occurred during the period of delirium. During this period the temperature was not at all elevated, the pupils were contracted and unequal, while the urine was scanty and contained a great quantity of albumin and indican. The salicylate of soda was stopped as soon as the delirium appeared, and the patient recovered, not only from the delirium, but from her rheumatism.

ACHARD thought that the delirium might have been due to the scanty secretion of urine.

BERNARD once gave a woman aged forty-five years, who suffered from acute rheumatism without complications, 12 grams (180 grains) of salicylate of soda in divided doses. The patient was neither alcoholic nor neurotic, and there was no albumin in her urine. The treatment brought on an attack of acute mania, with hallucinations of sight and hearing. At the end of forty-eight hours her state had again become normal.

At the session of November 4th, NETTER described a case of scurvy which occurred in a child aged one year that was fed upon sterilized milk. All the classical symptoms were present: anemia, weakness of the lower limbs, subperiosteal hemorrhages, lesions of the gums, etc. The child was put upon a diet containing meat, orange-juice, pureé of potato, etc., and quickly recovered.

At the Twelfth Congress of Surgery, October 17, 1898, GUYON and ALBARRAN read a paper upon "Nephrotomy," an operation which is to-day done (1) to explore the kidney or the ureter; (2) to permit the extraction of a calculus; (3) as a preliminary to certain operations upon the pelvis or ureter. The curved or oblique lumbar incisions are the best. When the kidney has been opened the surest method of exploration is this: one finger may be introduced into the pelvis of the kidney, to palpate against another finger on its outside. Even this method may fail to detect some renal conditions, for example, miliary tuberculosis. In one case a small cancer was overlooked until the microscopic examination of some false membrane revealed its presence.

A permanent opening in a kidney—nephrostomy—may be established either through an abdominal or lumbar incision. The latter method is less dangerous, is easier to accomplish, and facilitates future operations if such are necessary. To avoid perirenal suppuration the lips of the renal wound should be stitched to the anterior and posterior margins of the lumbar incision. The object of nephrostomy is to drain a septic or aseptic collection, or to re-establish urinary secretion in a condition of anuria.

The urine which drains from a renal fistula is practically normal if there was no obstruction to its flow before the operation. On account of the constant flow of water outward severe infection of the pelvis is not likely to occur. The parenchyma of the organ is affected scarcely at all, and in anuria renal secretion begins as soon as the operation is performed. If before nephrotomy was performed there was a condition of obstruction to the urinary flow the urine will return to its normal condition after the fistula has been established, more or less rapidly and perfectly, according to the nature of the obstruction, partial or complete, simple or septic, etc.

In calculus obstruction it is necessary to consider not only the mechanical obstruction, but the congestive phenomena, and the suppression of urine due to reflex influences. Usually, in calculus anuria the opposite kidney ceased to act before the anuria appeared. Sometimes this kidney looks normal but even then it will be found to present signs of nephritis which rendered it susceptible to reflex influence.

Ureterotomy may be performed for calculus, but it is difficult and sometimes unsatisfactory, and is not to be preferred to nephrostomy. Pyelotomy is feasible when the calculus is surely in the pelvis, but recovery is less prompt than when the incision is made through the parenchyma.

In uronephrosis it is better to make an incision than to remove the kidney. But a fistula is not the ideal operation, and attempts should be made to remove the cause of distention by ureteral catheterization, nephrorrhaphy, ureterotomy, or ureteropyelostomy. If the other kidney is damaged and it is necessary to spare the parenchyma of this one, nephrotomy is indicated, and conservative operations should be undertaken with great prudence. Nephrectomy under such circumstances is contraindicted, but may be performed upon a kidney whose secretion is of limited value, if the other kidney is active. In simple pyonephrosis a renal fistula is preferable to any anastomosis intended to reestablish the normal course of the urine. After suppurative symptoms have subsided such reparative operations may be undertaken.

In tubercular pyonephrosis a fistula is more troublesome, and its benefits are often of short duration. If the affected kidney has no value, and the opposite one is sufficient to sustain life it is better to remove the diseased one. Usually there is tuberculosis of the pelvis and parenchyma as well. "We have many times performed nephrotomy for tuberculosis, but have never seen the fistula close, and invariably the patients have died within two years." If one can assure himself of the good state of the other kidney, it is doubtless better to perform a nephrectomy. It has not been shown that a secondary nephrectomy is less dangerous than a primary one. Published statistics show that the mortality from nephrectomy for tuberculosis is twenty-eight per cent. for primary and thirty-four per cent. for secondary operations. The mortality of the primary operations of seven of the best European surgeons is only ten per cent., and that of eighty-four nephrotomies performed by different surgeons is seventeen per cent. Nephrotomy in tuberculosis is an operation of necessity, but one may count upon great amelioration of the symptoms after the fistula has been established.

ALBARRAN spoke of the treatment of fistulas after nephrotomy. If a urinary fistula persists when the pelvis is not distended, it indicates either that the pelvis was injured at operation, or that there has been an infection following operation. If the pelvis was much distended before the nephrotomy, the ureter may remain impervious on account of a fold in its insertion. This may perhaps be overcome by leaving a catheter *in situ* for a time, or by establishing an anastomosis between the pelvis and the ureter. If these measures fail, or if the ureter is not permeable for a catheter throughout its whole extent from below upward, a catheter is passed as far as possible, and the ureter is then cut down upon and every effort made to restore the continuity of its lumen before a nephrectomy is resorted to. If the urine contains pus search should be made for perirenal purulent foci. If such are present it may be possible to drain them and heal the kidney without removal. One should not be in a hurry to close up a fistula after operation. By waiting some time the ureteritis will often recede, so that the conditions for success of a plastic operation are greater.

JONNESCO reported that he had performed fourteen hemicraniectomies, and two frontoparietal craniectomies, with three deaths inside of six weeks after the operation. Six patients were cured, one of acute mania and epilepsy, two of old traumatic epilepsy, one of Jacksonian epilepsy, and two of hysteria with prostration and idiocy. One hemiplegic epileptic, and one microcephalic idiot, were improved. The operation was six times unsuccessful upon two epileptics with acute mania, and four idiots.

CALOT advocated the treatment of tubercular cervical adenitis by means of injections of chlorid-of-zinc solution, one part to fifty of water. Two to three grains (30 to 40 minims) are injected with a very fine needle, every third or fourth day. The treatment will cause the disappearance of the gland, without any permanent scar, provided only that the skin has not yet become involved in the inflammation at the time treatment was commenced.

TUFFIER practised ligation of the uterine arteries for cancer, in seven patients. The best result was that life was prolonged for two years before yielding to metastasis. Neither in these cases nor in certain fibromyomata of the uterus, was there any apparent curative effect. The utmost that can be hoped for from this treatment is the slowing of the morbid process.

SOCIETY PROCEEDINGS.

NEW YORK STATE ASSOCIATION OF RAILWAY SURGEONS.

Eighth Annual Meeting, Held at the New York Academy of Medicine, Thursday, November 17, 1898.

THE morning session was devoted to the special topic

SURGICAL SERVICE ON RAILWAYS,

and the discussion was participated in by prominent railway surgeons and officials, including railway presidents, division superintendents, attorneys, and claim agents. The proceedings, of great practical interest to the railway surgeon, were scarcely of sufficient general interest to warrant a report of them here.

The afternoon session was taken up with the election of officers and the reading of papers.

The officers elected for the ensuing year are: President, T. D. Mills of Middletown; first vice-president, J. L. Eddy of Oleon; second vice-president, G. N. Hall of Binghamton; secretary, C. B. Herrick of Troy; treasurer, H. P. Jack of Canisteo.

DR. C. B. HERRICK of Troy, the retiring president, delivered the President's address on

SURGICAL TECHNIC.

He considers that the more simple the preparatory technic the better. Surgeons who go to extremes in their asepsis obtain no better results than those who observe carefully though not over minutely the ordinary details of surgical cleanliness. The old surgeons, even before the days of antisepsis and asepsis, did not lose by any means the majority of their patients, and some of their statistics are worthy to be referred to yet. A marble operating-room and all the expensive accessories that go with it are not indispensable to good and successful surgery, and the fact that it may be impossible to secure any but the simplest conditions of cleanliness for an operation, must not be allowed to discourage the surgeon from doing all in his power under such simple conditions to save human life especially in emergencies.

DR. HENRY FLOOD of Elmira read a very practical paper, entitled

REMARKS ON AMPUTATION OF THE FOOT.

The foot is so important to the wage-earner that every half inch saved below the mediotarsal articulation should be considered of the greatest value. The operator should be bold to save, not to amputate. Accident is no respecter of anatomy, and no hard and fast lines of amputation should be observed. There are those who suggest a Symes' amputation for a crushed foot, because a very useful artificial foot with a not ungraceful action in walking can be secured to supply the missing member. But such prothetic apparatus is expensive, needs frequent renewing, and is not nearly as useful for the workingman as the smallest part of the foot that can be saved. Never go higher up to amputate because of any claims as to more adaptable prothetic apparatus; with the advance in that regard in our day, it is always a mistake. As in amputations of the hand save all tissue possible without regard to classic types of amputations. Treat the foot as a whole and amputate where necessary. As far as possible take plantar flaps, as the tissue of the sole is better suited for the end of the stump, but make use of dorsal flaps when the other is not available. Be careful of the Esmarch bandage and of tourniquets. They produce an artificial anemia and deceive as to what tissue is really alive, besides the temporary interference with the circulation may lower the vitality or eventually cause the death of tissue that would otherwise live. In amputating it is better to pick up and clamp or tie the cut vessels at once, except after severe hemorrhage, when it is necessary to avoid even the slightest blood loss, when some obstructive method of hemostasis may be employed.

DR. G. N. HALL of Binghamton read a paper, entitled

IS A RAILWAY SURGEON JUSTIFIED IN PERFORMING PIROGOFF'S AMPUTATION?

He considers the operation unjustifiable because the blood-supply to the flaps is almost necessarily interfered with under normal anatomical circumstances by the incisions prescribed for the amputation. Besides the nutrient foramen, the os calcis is below the point where the main artery is cut, so that necrosis of the calcaneum will ensue unless good union with the tibia should be secured immediately. Statistics show that it is the amputation of the foot that has to be oftenest repeated, and one-third of the cases in which it has been done have been followed by failure or death.

DR. JOHN WYETH, in discussing the two papers on amputations of the foot, said that he thoroughly agrees with the conservative spirit that would save every bit of tissue possible. He does not believe in immediate amputations and very seldom does a primary amputation in crushing injuries. To have to repeat the operation later he does not consider in these anesthetic days as a reflection upon the surgeon's skill. It does show that he fails in the proper direction, that of over conservatism. He finds position a great aid in controlling hemorrhage, the foot being raised or the patient's body lowered, and he is able to dispense with an Esmarch or tourniquet. For years he has treated the foot in amputations as if it were one bone, and he is glad to find men of large practical experience agree with him. He prefers Symes' to Pirogoff's amputation, though a Symes' stump will require an expensive artificial foot and frequent renewal of it, so that he makes his declaration only for reasonably well-to-do patients, not for laboring men.

DR. W. L. ESTES of Bethlehem, Pa., said three practical questions come up for solution when it is proposed to do an amputation of the foot: (1) Where can the flaps be obtained? (2) What form of stump will be best for this particular patient in after life? (3) What amputation will be followed by the shortest present disability? This last question is especially important in the case of the laboring man. The foot should be considered as a whole in any amputation, the line of section being the lowest that flaps can be got to cover. There are some suggestive things in the classic types of amputations. One not mentioned in the discussion is Mikulicz's for injuries of the heel. It especially enabled the operator to avoid the danger of having in young people a conical stump develop, which is so liable to happen if the amputation is in the leg itself. No attention should be paid to certain instrument-makers' representations as to the advisability of amputating at certain joints. No tissue should be sacrificed to any such false notion.

DR. MANLEY of New York said the surgeon should hesitate to sacrifice any tissue until he is sure it will not live. The reaction should be waited for in order to be assured as to where Nature will draw the line of demarcation between living and non-living tissue. The so-called classic amputations of the foot in the text-books should be wiped out once and for all. They have done far more harm than good. The Esmarch and the tourniquet are to be very charily employed; they have undoubtedly often done harm. A device that has been of great use to him on more than one occasion is what the French call the *desossement* of a toe, the bones of the toe being removed in order to supply tissue to help cover in the end of a stump.

REVIEWS.

A MANUAL OF SURGERY. By WILLIAM ROSE, M.B., B.S. (London), F.R.C.S., Professor of Clinical Surgery in King's College, London, and Senior Surgeon to King's College Hospital, etc., and ALBERT CARLESS, M.S. (London), F.R.C.S., Senior Assistant Surgeon to King's College Hospital, and Teacher of Operative Surgery in King's College, London, etc. New York: Wm. Wood & Co., 1898.

IN their preface, the authors express themselves as intending this work to be an abridged consideration of the subject of surgery, thus supplying a "genuine need." It is a volume of 1144 pages and 392 illustrations, printed in such small type with such narrow spacing as to make it rather trying to read this otherwise interesting and completely handled subject.

In every paragraph the student is made to appreciate the significance of bacteria as factors of disease, consequently etiology, pathology, and therapy are rationally dealt with. The first five chapters give an extensive consideration of surgical bacteriology, yet we fail to find a single chapter devoted to the methods of antisepsis or asepsis; certainly a flagrant omission. Of interest to teachers in this country might be an enumeration of the points in which these English authors are at variance with us. They deprecate the use of O'Dwyer's tube in diphtheritic stenosis for fear of dislodging the membrane. As to appendicitis, however, they side with the majority of us in considering its treatment surgical. A case of carcinoma of the breast, requiring a clearing out of Mohrenheim's fossa, is considered unsuitable for operation. In the abandonment of irrigations in empyema they are in line with our teachings. For hernia they favor Mitchel Banks' operation. The fear of asphyxia when opening retropharyngeal abscesses internally is not founded on clinical experience nor are most of the other reasons potent enough to call for the major operation of external incision.

Certainly the Paquelin cautery has a place in the treatment of certain angiomata. With others of the British school the authors consider colotomy a more favorable operation for carcinoma than excision. After all, these few instances comprise but mooted points, which do not detract from the value of this work as a text-book for students to whom it will commend itself for the reasons stated, besides being one of the latest works on the subject.

AN AMERICAN TEXT-BOOK OF THE DISEASES OF CHILDREN. By American Teachers. Edited by LOUIS STARR, M.D., Consulting Pediatrist to the Maternity Hospital, Philadelphia; Late Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania. Assisted by THOMPSON S. WESCOTT, M.D., Instructor in Diseases of Children, University of Pennsylvania; Visiting Physician to the Methodist Episcopal Hospital. Second Edition, Revised. Philadelphia: W. B. Saunders, 1898.

THIS work, of which the first edition appeared in 1894, is before us in a much revised form. There are new articles on "Modified Milk and Percentage Milk Mixtures," on "Lithemia," and on "Orthopedics." A large number of articles has been rewritten and numerous others have been much amended. It will be necessary here to review only the new articles and those especially revised. As a whole the volume shows the same good qualities which called forth such enthusiastic reviews four years ago.

The opening article by Starr, on infant-feeding and hygiene has been rewritten and is very modern. The writer is evidently in favor of Pasteurization. It will hardly do to call "heating milk at 155° F. for six minutes" sterilization. Starr describes fully all the usual methods of diluting milk, except Rotch's, which is explained in a new contribution by Westcott, who also states in detail his own method of percentage dilution. Leeds gives a good review of the composition of various milks and artificial foods and describes what is meant by "certified milk."

Rochford contributes a new article on "Lithemia," which he considers "essentially an auto-intoxication resulting from the presence of an excess of alloxuric bodies in the body media." He describes two main classes, the gastro-enteric and the nervous, and adds some interesting remarks on the urinary and skin complications. Considering the darkness of this subject, and our lack of exact information as to the causation, we should have preferred to see the article headed "Auto-intoxication," as the author himself suggests.

In the article on measles, by Starr, a description of the buccal eruption, as described by Koplik, has been added. The articles on rubella, varicella and parotitis, by Plant, are exceedingly well written, but we should like to have heard something of the recently described diplococcus of parotitis and less about Bordas' bacilli. Similarly, in the article on pertussis, by Griffifth, some mention of Koplik and Czaplewski's work would have been very welcome.

Morrill has rewritten his contribution on typhoid fever. The present status of the Widal reaction is not properly defined. From the statements made one would be led to infer that the reaction occurs in all cases of typhoid fever, and no mention is made of the occurrence of the reaction in some cases very late in the course of the disease.

Lumbar puncture is not referred to by the author of the articles on epidemic cerebrospinal meningitis and simple cerebrospinal meningitis. It is, however, shortly described by Lloyd in his excellent account of tubercular meningitis. It is rather surprising to find no mention of the intracellular diplococcus and its rôle in the first-named disease.

Brown writes fully and interestingly on diphtheria except in reference to antitoxin. A detailed account of the reduction in mortality after its use and of its dosage is given, but as to how it affects the membrane, the temperature, etc., nothing is said, nor are the succeeding rashes and joint complications mentioned.

We are pleased to see that Packard, in his article on anemia, does not treat of "anemia infantum" as a separate clinical entity. The articles on nervous diseases are admirable. The contribution on cretinism has been

revised by Spiller, whose description leaves nothing to be asked for. He draws special attention to the so-called "cretinoid" cases.

Lack of space prohibits our mentioning numerous other articles worthy of note. The defects we have noted above are almost entirely those of omission and hardly detract from the great clinical value of the book.

WOUNDS IN WAR. By SURGEON-COLONEL W. F. STEVENSON (Army Medical Staff). A.B., M.B., M.Ch., Professor of Military Surgery, Army Medical School, Netley. New York: Wm. Wood & Co., 1898.

WITHOUT purporting to present anything novel, this work was planned "for the use of officers in the three services" (British). Much therein contained is largely a compilation of earlier writers. The high esteem which the author has for Otis' "Surgical History of the War of the Rebellion", is evidenced by the many references to it.

The first chapter is devoted to remarks on weapons, firearms, obsolete and modern, and projectiles and their mechanics. Injuries produced by projectiles of small caliber are discussed in Chapter II., and the author's experiments contrasted with those of Bruns, Demosthen, and Van Coler. Stevenson agrees in the main with the latter two, but rejects the conclusions of Bruns, whose experiments were conducted with reduced charges at fixed short ranges. The author maintains that only results of actual warfare can furnish the *experimentum crucis* for the small bore.

With others he believes in the humane advantages of the mantled bullet; yet he foresaw its inefficiency in "stopping power" when employed against savages—thus forestalling actual experience in the "Chitral campaign" which called forth the "dum-dum" bullet. This being the *raison d'être* for the bullet ought to allay the fears of the Germans, instilled by Bruns, as to its universal use.

Under the general consideration of treatment of bullet wounds, the author favors searching for the bullet only when extensive injuries in themselves demand operations. With his otherwise keen appreciation of the details of antisepsis it is rather disappointing to read the author's recommendation of such an unsurgical procedure as the use of sulphate of iron for hemostasis of capillary hemorrhages. The use of the Röntgen-rays is not mentioned.

In the succeeding six chapters the injuries of special organs and their treatment are discussed with excellent judgment and due regard for the versatility of military operations the exigencies of which will ever minimize much that might be expected from conservative treatment and antisepsis. In the closing chapter the author gives the nine articles of the "Geneva Convention," supplementary to which he rightly remarks: "No military medical service unassisted can in future efficiently carry out the work required of it." He follows this with the astonishing arraignment that in England alone this auxiliary help is more poorly organized than in any other country.

Without wishing to detract from the merits of the treatise we cannot but express our regrets that so much therein is but a reflection of the experience of pre-antiseptic days, and not the experiences of smaller campaigns in Japan, Chitral, Abyssinia, and Greece. However, to those of us recently engaged in the throes of war, this excellent volume from the pen of this specially schooled military surgeon is very instructive reading.

THERAPEUTIC HINTS.

Subconjunctival Injections of Iodin for Choroiditis.—

℞	Iodi pur.	gr. $\frac{1}{6}$–$\frac{1}{3}$
	Potassii iodi	gr. xv
	Aq. dest.	℥ i.

M. Sig. External use.

Of this solution 4 to 5 drops are injected under the bulbar conjunctiva every two or three days, and as the reaction diminishes the amount injected is increased gradually to 10 or 15 drops. A slight degree of chemosis is caused and some pain; the former disappears in 12 to 24 hours, and the latter decreases with successive treatments. Favorable effects are seen in two or three weeks in a diminution of size of the floating opacities and an improvement in vision, especially of central vision, this being true even in cases of muscular choroiditis.—*Sourdille.*

For Acute Dysentery.—SANDWITH of Cairo advises the following treatment: The patient is to stay in bed with flannel over the abdomen, and placed on a diet of boiled milk, rice water, and Seltzer, plus a little whisky. A dose of salicylate of bismuth, 15 grains, is given every 4 hours. The intestine is washed out daily with a quart of boric acid and starch solution, and for a few days daily rectal injections are made with the following mixture:

℞	Cupri sulphat.	gr. xv
	Tinct. opii	gtt. xv
	Amyli	℥ i
	Aquæ	℥ viii–Oii.

M. Sig. For one rectal injection.

A cocain suppository may be inserted afterward if indicated.

For Melæna Neonatorum.—

℞	Etheris acetici	*m.* xxxii
	Aq. sacchari	℥ ii.

M. Sig. One teaspoonful every four hours.—*Seifert.*

Cardiac Stimulation for a Child.—

℞	Spts. etheris comp. . . .	*m.* lxxx
	Tinct. nucis vomicæ . . .	*m.* xl
	Tinct. lavandulæ comp. . .	*m.* lxxx
	Aq. cari . . . . q.s.ad	℥ iv.

M. Sig. One tablespoonful every four hours to a child of eight to twelve years.—*Ashby.*

For Enlarged Lymphatic Glands.—KATCHINOVSKY advocates the administration of the salts named below according to the Botkine method in order to produce nascent iodid of iron within the body since this acts so much more energetically than when given preformed:

a. One dram of potassium iodid in 6 ounces of water.

b. Ethereal tincture of malate of iron.

Add 3 to 20 drops of Solution B. to 2 or 4 teaspoonfuls of Solution A., and give twice a day at mealtime.

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXXIII. NEW YORK, SATURDAY, DECEMBER 10, 1898. NO. 24.

ORIGINAL ARTICLES.

THE NON-MEDICINAL TREATMENT OF CONSTIPATION.[1]

BY GEORGE ROE LOCKWOOD, M.D.,
OF NEW YORK.

THE treatment of habitual constipation is either a simple or difficult task according to the conscience of the prescribing physician. To the medical adviser who aspires to the title, "busy doctor," the problem is one easily solved. A glass of Hunyadi water, Epsom salts in the morning, the much-lauded cascara, at night, some laxative tablet advertised by the pharmaceutical chemist, enemas, suppositories or a prescription containing the familiar combination of aloes, podophyllin, belladonna, and strychnin—these are the remedies ordinarily used to combat this prevalent disorder. The writer does not deny that by these means a patient may be relieved of his constipation, but he does assert in all earnestness, (1) that the laxative drugs so given have no lasting benefit, usually operating only when given in increasing quantities; (2) that a train of subsequent evils is almost certainly set in motion, sure to cause serious, if not irremediable injury to the gastro-intestinal tract, and (3) that constipation can be more successfully treated by following physiological principles and in regulating the diet, exercise, and hygienic habits.

Before entering more fully into the subject it is desirable to limit the discussion entirely to the habitual and chronic forms of constipation. There is no doubt that the remorseful headache that blots from the memory the pleasures of the past may be relieved by the quickly acting Hunyadi. The distended abdomen may become soft and palpable by the gentle dose of oil, and the bilious attack may be mitigated by calomel. These are, however, acute conditions which require acute remedies, and about these and similar cases we shall make no mention.

The question of what constitutes the constipated state is one not easily answered. We have come to the conviction that a daily stool is necessary to health, and yet it would seem as though there were patients whose normal condition produced a stool every second or third day without detriment to any of the functions of the body. To submit such tardy patients to the habitual use of quickening remedies would, therefore, seem wrong. Much better is it to make a rough estimate of the total quantity of the stool, to see for instance if the stool every other day contains two-days' quantity of excreta and whether the patient suffers from his tardiness, before submitting such a patient to treatment. These are cases of apparent, but not of *real* constipation. Better far such a tardy but sufficient stool naturally induced than a daily result from medication. On the other hand, a patient may have a daily stool though of insufficient quantity—a real but not an apparent constipation.

It will be well to divide the discussion into two headings: I. The injuriousness of the habitual use of laxatives. II. The non-medicinal remedies for constipation and their indications. (1) The drugs usually given in constipation are: (*a*) Those given internally (salines, vegetable cathartics). (*b*) Those acting locally (enemas, suppositories).

1. The salines usually depend for their efficacy upon the sulphate either of magnesium or of sodium. Let us take Carlsbad salts as the type, because its effects upon digestion have been most accurately determined. Jaworski[1] has proven that two results follow the continual dosing of Carlsbad salts: (*a*) That the production of HCl. and of digestive ferments is reduced, often to such an extent that their secretion cannot be excited, even by the introduction of food into the stomach. (*b*) That atony of the muscular wall of the stomach results, provocative of serious symptoms of indigestion and difficult of cure. These results are evident six weeks after the beginning of the dosing. Jaworski's conclusions have been corroborated by those of Boas, Ewald, and others and may be accepted as *facts* about which there can be but little dispute. (2) The drastic purgatives, aloes, rhubarb, podophyllin, cascara, and the like act not only in depressing the secretory power of the stomach and in weakening the tone of its muscular wall, as do the salines, but they exert in addition an actual congesting effect upon the gastro-intestinal mucosa. From the congested blood-vessels serum transudes, peristalsis is increased as in all intestinal inflammations and a watery stool results.

[1] Read in the Section on General Medicine of the New York Academy of Medicine, November 15, 1898. For discussion see page 775.

[1] "Uber die wirkung des Karlsbader thermal Wassers auf die Magendarmfunctiv," *Deutsches Archiv f. Klin. Medicin*, Bd. 37.

It is the same process as in cold in the head. The nose runs; we blow it. If we have a fresh cold every day it would not be long before a chronic catarrh would be set up. Just as positive as it is that the continual use of vegetable purgatives produces not only secretory and muscular insufficiency of the gastric and intestinal walls, but an actual inflammation, thus perpetuating the condition we are anxious to relieve. Boas, with all his ripe experience writes: "This is one of the reasons why secretory insufficiency of the stomach is more common in women than in men, although the latter, by reason of the misuse of tobacco and alcohol, are more disposed to gastritis than the women."

The contraindications to the habitual use of salines and vegetable cathartics may be thus enumerated: (1) They are contraindicated in all conditions of diminished secretory power of the stomach (hyperacidity). The only excuse for the use of Carlsbad is the one class of cases with hyperacidity and normal muscular tone, a condition not frequently encountered. (2) They are contraindicated in all conditions of impaired muscular power of the stomach or intestines. One example will show what is meant. We know how common is the condition of gastroptosis and atony combined. The relaxed and displaced stomach reaches one or two inches or more below the umbilicus, and over it may be elicited the splashing sounds when the stomach should be empty, or after the administration of 4 or 5 ounces of water in the fasting condition. Constipation regularly accompanies this condition, and if, for it, salines or vegetable carthartics are employed, the gastric condition is certainly made worse. It is marvelous how these patients improve when these drugs are discontinued and the constipation treated on less heroic lines. (3) They are contraindicated in all conditions of inflammation of the stomach, large or small intestine. In gastritis they regularly reduce secretory activity already reduced and tend to aggravate the gastric inflammation. As to intestinal inflammations the observant physician, especially if he make a practice of examining the stools, will often notice an increase of symptoms of enteritis or colitis, both objective and subjective, after a course of purgatives. Boas says: "I do not exaggerate in the least when I assert that the predominance of *enteritis membranacea* in women is to be referred to the use of more or less unsuitable laxative remedies." (4) Laxatives are absolutely contraindicated in young patients and children owing to the great sensitiveness of the gastro-intestinal mucosa and their proneness to atony of the gastric and intestinal wall. Boas makes emphatic mention of these cases and asserts that diet, massage, and abdominal gymnastics will, without fail, effect a cure.

These objections have led many to the use of simple enemas. An occasional enema is often of the utmost value, but their habitual use is a positive detriment. The sigmoid is distended, its expulsive power weakened, while the long-repeated mechanical irritation diminishes in great measure its sensitiveness, so that reflex attempts at expulsive contraction are markedly lessened.

One other effect is occasionally seen: the rectum and colon are endowed with marked absorbing qualities; the ptomains and other excrementitious bodies in the feces would be rapidly absorbed to the detriment of the system were it not for the diminished fluidity of the stools. If the enema dilutes the feces the poisonous extracts may be rapidly absorbed and serious consequences may occasionally ensue.

Suppositories are useful in inducing regular habits and the natural straining efforts, but their long-continued use produces congestion and irritability of the rectum, congestion of the hemorrhoidal veins, and, in patients with weakened perineal support, a prolapse of the gut, to a certain extent at least. Especially to be avoided are suppositories in young children on account of the stimulating effect in the anogenital region and the possibility of undue genital excitement.

Let us turn now from the destructive to the constructive portion of this paper and consider the treatment of constipation: (1) by diet, (2) by measures calculated to strengthen the abdominal supports, (3) by hydrotherapy, (4) by sedative remedies, and (5) by oil irrigations.

I. *Diet.*—The diet suitable for constipation may be divided into three classes: (1) Fecal-forming food: Coarse vegetables, coarse bread, cereals. (2) Secretion-excitors: Sugars—milk-sugar, honey, fruits, compotes, salts, especially NaCl. (3) Peristalsis-excitors: Cider, buttermilk, fats, organic acids.

Coarse vegetables, such as spinach, Brussels sprouts, turnips, and carrots, should constitute a large proportion of the diet. To avoid irritation of the stomach it is well to have them prepared in pureé form. To this class of foods must be added the coarse cereals. The breads should be of coarse texture and should be given one day old. Porous bread is to be preferred. A very good biscuit is Dohl's dyspepsia cake, somewhat dry, but if moistened with hot water or milk and eaten with a little sugar, really not unpalatable. One biscuit at night is often serviceable without other dietetic rules. As to whether the taking of water with the meals is of benefit is a mooted point. There is no doubt that a glass of cold water on rising in the morning is of

great service in increasing gastro-intestinal peristalsis, but during the meals it is my opinion that little water should be taken. In general the drier the diet the greater the mechanical stimulation of the intestinal wall. This constipation-diet, in its entirety, is indicated in atonic constipation alone. Whenever inflammation exists bulky foods must be excluded and reliance placed on other foodstuffs and remedies. This bulky diet is also contraindicated in cases of muscular insufficiency of the stomach, especially with gastroptosis, as the bulk of the food mechanically overloads the weakened stomach. In simple atonic constipation this diet, while theoretically indicated, can never be carried out in full severity by reason of objective disturbances (distention of stomach and intestines) and of flatulence. Such a diet, moreover, palls, so that meat and other articles of food must be allowed to avoid monotony. This latter indication is most essential in neurotic patients who require a varied diet. Care must be taken in all cases to exclude from the diet all constipating food. This is often overlooked. One glass of claret will neutralize, for example, the laxative effect of an entire meal. Tea must be freshly made and never strong.

II. *Sugars.*—It is not definitely proven whether the action of sugars is through the fermentation they undergo, producing butyric, lactic, and acetic acids which increase intestinal peristalsis, or whether they act as do the salines, in producing a transudation of serum through the intestinal wall. Strauss and Boas incline to the latter theory. Certain it is that we have in this class of foodstuffs a very efficient means of combating constipation. Sugars are best given in the form of honey, milk-sugar, and fruit compotes. The simplest and best remedy I know of is a tablespoonful of honey in half a glass of warm milk on rising in the morning. It very seldom disagrees or diminishes appetite for breakfast. Honey, jam, or marmalade may also be taken with the breakfast roll. Lactose (thirty cents per pound) is to be used instead of ordinary sugar for tea, coffee, and the like. Compotes of stewed fruit may be sweetened by it, and such a compote taken once a day at least. A very good combination is two parts of prunes and one of figs. Raw fruit I do not approve of. Huckleberries and cranberries are to be strenuously avoided. Diluted condensed milk may be used in place of ordinary milk.

Passing to liquids we have buttermilk, kumyss, and cider. Buttermilk is much lauded by German authorities, and has in my experience proved very reliable. To secure good effects three glasses should be taken daily. Kumyss has a similar effect, somewhat increased by the stimulating effect of CO_2 on gastric and intestinal peristalsis. Kefir is not obtainable in our markets. White wines may be allowed in moderation.

Fats are indicated in large quantities but their administration is somewhat difficult. The simplest form is to give butter, $\frac{1}{8}$ to $\frac{1}{4}$ pound daily. Cream seldom agrees. Cooked fats are of course injurious. In debilitated subjects cod-liver oil may be an excellent adjuvant. In young subjects the addition of fat to the diet may alone be sufficient.

Measures strengthening the abdominal wall consists of (1) massage, (2) abdominal gymnastics, (3) electricity, and (4) abdominal supports. Except in cases where constipation was dependent upon a neurasthenia, for which latter condition, general, not local massage proved of value, *massage* has been disappointing. This may be contrary to the general impression but after extended and repeated trials I have abandoned a large measure of my previous hope in its efficacy. If ordered it should be given by an experienced operator. Massage is contraindicated in all inflammatory and spastic conditions.

Abdominal gymnastics are more serviceable. General exercise, especially bicycling and golf, are of great service, together with local exercises, such as the raising of the leg slowly to the vertical position and dropping it to the bed again.

Electricity has been to me a grievous disappointment. I have used faradism in a variety of ways, usually one broad electrode over the umbilicus, a smaller one to the left of the spine at the level of the twelfth dorsal vertebra, but I have never been convinced of its utility. The results, however, are so good in atonic conditions of the stomach, that I still continue hoping better things from it in intestinal work. Of galvanism I have not sufficient knowledge to speak. Lately, Boas has had great success in rectal faradism. One pole being inserted into the rectum, the other, flat electrode, is to be placed at various points over the colon. Boas claims brilliant success, and as he is a most conservative observer, great weight must be attached to his statements.

Artificial abdominal supports are indicated (1) in downward displacements of the stomach or colon; (2) in weakness of the abdominal wall or separation of the recti muscles. The supporter should always be adjusted before rising in the morning and worn continuously through the day. The most convenient apparatus is the Bardenhauer, made by the Pomeroy Truss Company, Fifteenth street and Broadway, from the original Bardenhauer. (I do not know of any other place where they can be obtained.) In these cases the patient should be instructed to suspend the

clothing from a corset-waist and not from the waist.

III. Hydrotherapy is a measure which must not be lightly passed over. The glass of cold water on rising has a well-known effect upon intestinal peristalsis, but its disadvantage is that it exerts a depressing effect upon gastric secretion.

The spinal douche I can strongly recommend. While the patient sits in as hot water as can be borne, the spine is at first sponged with hot water, after which a pitcher of cold water is poured from a considerable height upon the back. Brisk friction should follow, and the hour of selection should be before breakfast. When the spinal douche cannot be given the patient may stand before two basins, one of hot and one of cold water, and alternately sponge the abdomen with the hot and cold. Such treatment is serviceable in atonic forms of constipation, but is contraindicated in inflammatory and spastic conditions.

IV. Sedative remedies are indicated in conditions of intestinal spasm, a more frequent class of cases than is ordinarily supposed. In this type, purgatives, massage, and bulky articles of diet are to be excluded, and a more soothing régime inaugurated. Attention should be paid to the primary cause, usually a hyperacidity of gastric contents. An efficient remedy in these cases, about which I can speak from considerable experience, is the Priessnitz Umschlag or Neptune Girdle. Two thicknesses of flannel, large enough to cover the abdomen, are wrung out in hot water, covered by oiled silk, and applied to the abdomen at night by means of a binder. The soothing effect of a nocturnal hot bath is often of service. Small doses of sodium bromid and belladonna, preferably with chloroform-water as a vehicle, may be necessary in obstinate cases.

V. Oil irrigations were first employed by Kussmaul, and are generally known by his name in German literature. The results personally seen in Boas' clinic and in my own practice have been so brilliant that I am inclined to attach much importance to this form of treatment. A rectal tube of large caliber, with a large lateral opening, is introduced six to eight inches into the rectum, and from six to eight ounces of a bland oil slowly allowed to enter. Cotton-seed oil free from rancid acidity, is as satisfactory as olive oil, and is inexpensive. In Boas' and in Pick's clinics, the patient assumes the knee-chest position. My modification of this is more agreeable to sensitive patients.

The patient receives the injection while in the Sims' position, with the hips elevated on two pillows, and with the muscles well relaxed, remains so placed for ten minutes, then the dorsal decubitus is assumed for ten minutes, after which the patient lies for ten minutes on the right side, the hips still being elevated. By this method the oil reaches throughout the entire length of the colon. No immediate results occur, as a rule, and the patient may go about his daily work, although the injection is to be given by preference at bedtime. In the great majority of instances the patient will have one normal movement for three to five successive mornings without straining. The action of the oil seems to me to be due to the fact that the intimate commingling of the oil with the feces prevents all further drying processes, thus markedly facilitating the outward passage of the feces, and in presenting a greater bulk to the expulsive efforts of the rectum. Pick recommends daily inspection of the stools and a repetition of the injection whenever the oil disappears from the feces. It is just as well, however, to rely upon clinical data, and to repeat the treatment whenever the effects of the previous injection have subsided. Ordinarily, every five days is sufficient. One great advantage of this method is that it may be used in atonic, spastic, and inflammatory conditions alike.

A successful case of treatment by the oil method is hereby attached.

Miss C. E., forty-eight years of age, for thirty-two years had never known a natural desire for stool. By enormous doses of laxatives, supplemented by glycerin injections, the bowels had been made to move, but without these remedies no natural action would occur under seven to fourteen days and then only by repeated straining efforts. Appetite was practically nil. For three years she has been constantly under medical advice for her constipation. For three years had abdominal massage daily without relief. Seen March 10, 1898. She was spare and under-nourished. The lower border of the stomach reached two inches below the umbilicus, and loud splashing sounds elicited during the fasting condition betokened an advanced degree of muscular insufficiency.

The abdominal wall was of normal strength. The rectum was normal, but a moderate impaction could be felt in the sigmoid flexure. Upon irrigating the colon a normal quantity of neutral-saline solution could be introduced and was expelled with normal involuntary force. No mucus was evident in the washings. Inflation showed the colon somewhat dilated and the transverse portion sagging down in the median line, the so-called M shaped colon. Chemical examination of a Boas-Ewald test-breakfast revealed normal digestion. No other abnormalities were detected. March 11th the irrigations were begun and have been repeated every five days since that date. Since the first injection she has never missed a single day having a perfectly natural and sufficient stool, with normal desire, after breakfast. She has not had during this time a single laxative drug.

The adjuvants to treatment consisted of honey and

milk in the morning, two glasses of buttermilk daily, although often for days in succession she would omit this, and a Bardenhauer belt. Her general condition is wonderfully improved and in all respects she considers herself a well woman.

If a colitis can be excluded, either atony or spasm probably exists. Atony is shown by the facility of the entrance of water into the gut and diminished involuntary efforts to expel it. In addition small quantities, less than one-half pint, allow of loud succussion sounds by abdominal palpation. Here all the constipation-diet may be used together with massage, electricity, douches, and the oil irrigation.

Spasm is detected by the difficulty experienced in introducing a normal amount of infusion and the violence of its involuntary expulsion. In this form the symptoms are, moreover, intermittent and the gut often experiences cramp-like pains without successful stool, often after the taking of food or after nerve exhaustion. Here the bulky foods, massage, electricity, and cold douches are contraindicated, while a more soothing régime, previously alluded to, is followed by good results. In these cases a condition of gastric hyperacidity is often a reflex cause. Sodium bicarbonate after meals will settle this point beyond dispute. Careful examination of the rectum should also be made for hemorrhoids, catarrhal proctitis, rectal ulcers, strictures, or fissure, as any rectal inflammation may lead to reflex intestinal spasm and constipation.

In conclusion, the writer desires to emphasize the importance of a careful physical examination, if good results are to follow the treatment. A cough should no more be treated by empiric methods alone than should constipation; both are symptoms, denoting predisposing and exciting factors, and the determination of these must precede a successful therapeusis. Negligent habits must be corrected, the nervous expenditure and nervous income must at least be balanced, and in almost every case a physical examination of the colon should be made. A convenient morning scheme for examination and indications for treatment which I can personally recommend, is as follows: The colon is flushed out with normal salt solution, and the wash-water examined. If mucus be present, pointing to an intestinal catarrh (excluding nervous forms of membranous colitis), bulky forms of food are to be excluded from the constipation-diet, massage, electricity, and cold abdominal applications are contraindicated, but irrigations may be used with benefit. Abnormalities in the position of the colon can be easily appreciated by inflation with air, and call for the Bardenhauer or similar abdominal support. The patient should, moreover, be instructed to lie down at least one hour in the middle of the day. Other measures calculated to strengthen the abdominal wall are also indicated.

The writer firmly believes, as the result of his experience, that careful and systematic treatment along the lines indicated in this paper will be followed by successful and more or less permanent results in the very large majority of patients. There may be a small percentage of such advanced cases as will require in addition some medicinal laxative, but such a percentage the writer believes to be a trifling one. Certainly within the past two years such a one has not come to his notice.

A CONTRIBUTION TO THE SUBJECT OF THE SERUM-TEST IN THE DIAGNOSIS OF TYPHOID FEVER.[1]

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IT is not the object of this paper to discuss the history of, or to review the literature bearing upon the subject of, serum-diagnosis. It is sufficient to say that the test is the direct result of a long series of scientific investigations, for the prosecution of which we are primarily indebted to R. Pfeiffer, and also to Kolle, Loeffler and Abel, Sobernheim, Gruber, Durham, Widal, and others. I desire to add the results of some observations which were made during February, March, and April, 1897, and reference will be made to special articles only as bearing upon particular points under discussion. I will not describe the different methods employed by various workers since the underlying principles are the same in all, although there may be differences in the details of their application.

The phenomena upon which the test depends may be briefly described as follows: If a drop of blood-serum from a healthy person be mixed with a drop of water in which typhoid bacilli are suspended, and the drop of the mixture thus prepared be examined under a high-power objective, the bacilli will be observed to lose more or less completely their power of motion and to collect in larger or smaller clumps. If instead of pure serum we employ serum diluted with water in varying proportions, the effects upon the bacilli become less as the serum becomes more dilute and when only one part of serum is present in thirty to forty of water, the bacilli remain very active and show no tendency to collect in clumps. If the same observation be made with blood-serum from patients ill with typhoid fever the effects upon the typhoid bacilli will not be identical, but will differ in degree rather than in kind. The

[1] Read before the Illinois State Medical Society.

so-called "reaction," *i.e.*, loss of motion and clumping, is observed as in the case in which normal serum is used, but it occurs when the dilution of the serum is carried to a much higher degree. It is generally true that such a reaction occurs in dilutions of typhoid serum above 1 to 40, and does not occur in dilutions of the serum of persons in health or of those suffering from other diseases above that point.

In most of the published communications, the writer simply reports the presence or absence of the "reaction" in a series of cases. It is very evident that the term does not signify the same in all cases. One writer follows the original suggestion of Widal and considers a reaction for typhoid to be present when serum diluted ten times causes a clumping and loss of motion after thirty minutes; others where the same occurs in about the same time if the serum is diluted thirty or forty times; and still others would extend the time of observation to several hours. Very few observers have made any definite statements regarding the virulence of cultures, which is known to become less when the bacilli are grown upon artificial media. It is, however, probable that most of the observers have reached definite conclusions as to what constitutes a reaction by their personal experience with the particular cultures employed by them. If these details were given in each instance, the value of the report as an aid and guide to others would be much enhanced, while now many of them are of little or no value.

In the tests which are here reported four different cultures of typhoid bacilli were used, and will be designated as Nos. 1, 2, 3, and 4. No. 1 was obtained from the spleen of a patient who died of typhoid fever six months before using. No. 3 was an old laboratory culture, having been grown upon artificial media for sixteen months. Nos. 2 and 4 were isolated a few days before being used from the spleens of patients dead from typhoid fever. All conformed perfectly to the typhoid bacillus in their

CHART I.—TESTS IN HEALTHY INDIVIDUALS.

Case No.	Temperature.	Time.	Cultures.	Strong Serum.		Serum 1:10.		Serum 1:20.		Serum 1:40.	
				Clumping.	Motion.	Clumping.	Motion.	Clumping.	Motion.	Clumping.	Motion.
1.	20°	40 m.	1	Slight.	None.	Fair.	Sluggish.	Fair.	Sluggish.	None.	Active.
			3	"	"	"	"	"	"	"	"
			4	None.	"	None.	Active.	None.	Active.	"	"
			1	"	Active.	"	"	"	"	"	"
			3	"	"	"	"	"	"	"	"
	37°	16 h.	4	"	"	"	"	"	"	"	"
2.	20°	40 m.	1	Marked.	Sluggish.	Slight.	"	Slight.	"	"	"
			3	"	"	"	"	"	"	"	"
			4	Slight.	"	None.	"	None	"	"	"
			1	None.	Active.	"	"	"	"	"	"
			3	"	"	"	"	"	"	"	"
	37°	16 h.	4	"	"	"	"	"	"	"	"
3.	20°	40 m.	1	Marked.	Sluggish.	Fair.	"	Slight.	"	"	"
			2	Slight.	"	Slight.	"	"	"	"	"
			4	"	"	"	"	"	"	"	"
			1	None.	Active.	None.	"	"	"	"	"
			2	"	"	"	"	"	"	"	"
	37°	16 h.	4	"	"	"	"	"	"	"	"
4.	20°	40 m.	1	Marked.	None.	"	"	"	"	"	"
			2	Fair.	Sluggish.	"	"	"	"	"	"
			3	Marked.	"	"	"	"	"	"	"
			4	None.	Active.	"	"	"	"	"	"
			1	Slight.	"	"	"	"	"	"	"
			2	None.	"	"	"	"	"	"	"
	37°	16 h.	3	"	"	"	"	"	"	"	"
			4	"	"	"	"	"	"	"	"
5.	20°	40 m.	1	Marked.	None.	Slight.	"	"	"	"	"
			4	Slight.	Sluggish.	"	"	"	"	"	"
			1	"	"	"	"	"	"	"	"
	37°	16 h.	4	None.	Active.	None.	"	"	"	"	"
6.	20°	40 m.	1	Marked.	Sluggish.	Marked.	Slight.	"	"	"	"
	37°	16 h.	1	Slight.	Active.	None.	Active.	"	"		
7.	20°	40 m.	1	Marked.	None.	Slight.	"	"	"		
	37°	16 h.	1	None.	Active.	None.	"	"	"		
8.	20°	40 m.	1	Marked.	Sluggish.	Slight.	"	"	"		
	37°	16 h.	1	Fair.	Active.	None.	"	"	"		
9.	20°	40 m.	1	Marked.	None.	Slight.	"	"	"		
	37°	16 h	1	None.	Active.	None.	"	"	"		

Cultures: (1) From spleen of typhoid six months before using. (3) From spleen of typhoid sixteen months before using. (2) and (4) Freshly isolated from fatal cases of typhoid.

morphology and cultural peculiarities. Nos. 1 and 3 were therefore of a lower degree of virulence than the others.

The examinations were made as follows: The blood was obtained from a prick in the end of the finger or lobe of the ear, the surface having been previously thoroughly washed with alcohol. It was collected in a small, sterile U-shaped glass tube, and also a couple of drops were placed upon a clean glass slide and allowed to dry. By means of a centrifugal machine the serum in the tubes was separated from the rest of the blood. The tube was then cut off at the lower part of the layers of serum, and the serum blown out into the cell of a sterile hollow-ground slide. When the serum was diluted, this was done by means of fine, graduated, sterile glass tubes, bouillon being used as a diluent. A culture of typhoid bacilli which had grown upon rather dry agar-agar for not more than twenty-four hours at 37° C. was used. As much of such a growth as could be carried in an ordinary loop of a platinum needle was thoroughly mixed in 1 c.c. of bouillon. A hanging drop of this was examined to determine whether the bacilli were actively motile and not in bunches. Upon a cover-glass, sterilized in a flame, a drop of this emulsion of bacilli was mixed with a corresponding drop of the strong or diluted serum to be examined, the cover-slip then being inverted and placed over the concavity of a hollow-ground slide and sealed with vaselin. When the dry blood was to be examined, a drop of bouillon was placed upon the dry blood and after some of the serum had been dissolved, it was used in the same way as the fresh serum. The hanging drops thus prepared were examined with a No. 7 Leitz objective and No. 3 eyepiece. The observations were made for various lengths of time up to three or four hours at room temperature, and after keeping the slides at 37° C. from sixteen to twenty hours.

CHART I.—I will first call attention to the results obtained in the examination of blood from nine healthy persons. The tests were here made with fresh serum only, and parallel observations were made with cultures of different degrees of virulence. From the accompanying chart it will be seen that in the case of the strong serum, after forty minutes at 20° C., the bacilli were sluggishly or not at all motile, and showed slight or no clumping. As the serum was diluted in increasing degrees the effects upon the bacilli became less until at 1 to 40 there was produced no effect upon the motion and no clumping either in forty minutes at 20° C., or after sixteen hours at 37° C. It will will also be noticed that in the preparations made from strong serum, after keeping for sixteen hours at 37° C., there was little or no clumping, and active, or sluggish motion. The

CHART II.—TEST IN DISEASES OTHER THAN TYPHOID FEVER.

No.	Original Clinical Diagnosis.	Final Clinical Diagnosis.	Blood-test.	
			Fresh Serum.	Dry Blood.
1.	Lobar pneumonia.	Lobar pneumonia.	—	—
2.	Acute artic. rheumatism.	Acute artic. rheumatism.	—	—
3.	Pneumonia—typhoid?	Pneumonia—malaria.	?	?
4.	Miliary tuberculosis, typhoid?	Miliary tuberculosis (autopsy).	—	—
5.	Acute malaria.	Acute malaria.	—	—
6.	Typhoid?	Catarrhal fever.	—	—
7.	Acute artic. rheumatism.	Acute artic. rheumatism.	—	—
8.	Cirrhosis of liver—jaundice.	Cirrhosis of liver—jaundice.	—	—
9.	Pulmonary tuberculosis.	Pulmonary tuberculosis.	—	—
10.	Typhoid fever.	Pulmonary tuberculosis, syphilis.	?	?
11.	Typhoid fever?	Tuberculosis.	?	—
12.	Tuberculosis of lungs and knee.	Tuberculosis of lungs and knee.	—	?
13.	Typhoid fever.	Pleuritis.	—	—
14.	Peritoneal tuberculosis.	Peritoneal tuberculosis.	—	—
15.	Pulmonary tuberculosis.	Pulmonary tuberculosis.	—	?
16.	Malaria.	Malaria.	?	?
17.	Catarrhal jaundice.	Catarrhal jaundice.	—	—
18.	Lobar pneumonia.	Lobar pneumonia.	—	—
19.	" "	" "	—	?
20.	Acute nephritis.	Acute nephritis.	—	—
21.	Empyema.	Empyema.	—	—
22.	"	"	—	—
23.	Septic wound.	Septic wound.	—	—
24.	Lymphatic tuberculosis.	Lymphatic tuberculosis.	—	—
25.	Typhoid.	Not typhoid.	—	—
26.	Typhoid?	Catarrhal fever.	—	
27.	"	Not typhoid.	—	
28.	Abdominal aneurism.	Abdominal aneurism.	—	
29.	Pulmonary tuberculosis.	Pulmonary tuberculosis.	—	
30.	Lobar pneumonia.	Lobar pneumonia.	—	

clumping and the effects upon motion were more marked in the case of the slightly virulent cultures and manifested at greater degrees of dilution of the sera. These results correspond with those obtained by several observers.

CHART II.—Thirty specimens of blood from persons with diseases other than typhoid fever were tested. In most of them fresh serum and dried blood, collected at the same time, were used. The results are given in the chart as positive (+), negative (—), and doubtful (?). In all, the results were arrived at by the following method: Culture No. 1, which was non-virulent, or of a low degree of virulence, was used in the preparations together with the strong serum or strong solution of dry blood. The slides were kept at 37° C., 98° F., for sixteen to twenty hours, and then examined. Those in which no motion was present were marked positive, whether clumping was marked or absent. Those were marked doubtful in which such a preparation showed some motion, and more or less clumping. The negative results were recorded where the bacilli remained actively motile and showed no clumping. It will be noticed that in no case of this series was a positive result obtained, and in only few a doubtful one (four with fresh serum, and six with dry blood). The doubtful reactions were slightly more numerous when dry blood was used.

CHART III.—Thirty-two cases of typhoid fever were tested in the same manner, and the results indicated in the chart are estimated upon the same basis as the series given above of non-typhoids. Of thirty cases tested with fresh serum, three only gave a doubtful reaction, all the rest being positive. All of the doubtful cases were fatal. Two patients (twenty-third and twenty-sixth) at autopsy showed only typical lesions of typhoid fever. The other patient (twenty-fifth) at autopsy presented, in addition to typical typhoid lesions, also tubercular lesions in the lungs. In each of these cases only a single specimen of blood was examined. Two other specimens collected at the same time as these three and tested with the same emulsion of bacilli gave positive results. The degree of reaction with dry blood from these three fatal cases was less than with fresh serum, in two the result being entirely negative. Of twenty-nine cases in which the test was made with dry blood, nineteen gave a positive, eight a doubtful, and two a negative reaction. In one of those counted as giving a positive reaction, it was obtained only upon a second examination. From the chart it will be seen that a negative or doubtful re-

CHART III.—TESTS IN CASES OF TYPHOID FEVER.

No.	Days of Disease.	Blood-test.		Remarks.
		Fresh Serum.	Dry Blood.	
1.	20		?	Typhoid lesions and pulmonary tuberculosis at autopsy.
2.	5	+		
3.	5 to 7		+	
4.	21	+	+	
5.	21	+	+	
6.	16	+	+	
7.	34	+	+	Normal temperature ten days.
8.	43	+	+	Normal temperature ten days.
9.	16	+	+	
10.	18	+	+	
11.	30	+	+	
12.	37	+	+	Fresh serum gave + reaction on fifteenth day.
13.	25	+	?	Normal temperature one day.
14.	35	+	+	Normal temperature four days.
15.	15	+	+	
16.	35	+	+	Normal temperature two days.
17.	11	+	—	
18.	10	+	—	
19.	56	+	+	Normal temperature two days.
20.		+	?	
21.	70	+	?	Convalescent four weeks.
22.	15	+	+	
23.	32	?	—	Typhoid lesions at autopsy.
24.	20	+	+	
25.		?	—	Typhoid and tubercular lesions at autopsy.
26.		?	?	Typhoid lesions at autopsy.
27.	27	+	?	
28.	20	+	+	
29.	60	+	+	Normal temperature two weeks.
30.	24	+	+	
31.	21	+		
32.	15	+		

sult was obtained in some cases in which the fresh serum gave a positive one. In a few cases dry blood was tested after being kept sixty days, and it still caused the same effects upon the bacilli as when freshly dried. In Case I. of this series, no test was made with fresh serum. The case terminated fatally and the autopsy revealed typical typhoid lesions, with tuberculosis of the lungs. Typhoid bacilli were cultivated from the spleen and gall-bladder which reacted perfectly to the serum from advanced cases of typhoid. Tests made with the serum from the heart obtained at the autopsy gave only a doubtful reaction. In both the cases in which typhoid fever and tuberculosis were demonstrated by the post-mortem examination to be present the reaction was doubtful. This result is different from that obtained by Zienke[1], who found a positive reaction in a fatal case of typhoid and tubercular infection.

In the first cases examined observations were made of the preparations when kept at room temperature for thirty minutes, but while in many there was clumping and complete loss of motion when the serum was diluted fifteen times, in other cases of undoubted typhoid fever, slight motion remained, even where with strong serum after sixteen hours at 37° C. motion was entirely lost. On account of the impossibility of deciding on such reactions this method was not extended to all the cases.

Two specimens of serum were tested where the person had had an attack of typhoid fever some time previously, and had since been in good health. In one case where the attack had been six years before, the reaction differed in no way from that in other healthy individuals. In the other case in which the attack had been passed through about a year previously, the reaction was doubtful according to the standard given above. In the fresh serum, clumping was well marked but motion remained quite active in a dilution of sixty times after thirty minutes at room temperature.

In many of the cases of typhoid fever tests were made with the same specimen of serum, using different cultures. In general, the clumping was more prompt and the interference with motion more pronounced when the less virulent cultures were employed. In some cases the strong typhoid serum after sixteen hours at 37° C. failed to cause a complete loss of motion of the more virulent cultures, a few isolated bacilli remaining sluggishly motile. This corresponds with the observations of Kolle[2], and others. In the hanging drops made with strong serum, there was a considerable increase in the number of bacilli when kept for several hours at 37° C.

The results obtained by these examinations may be briefly stated. A complete loss of motion after keeping a preparation, made with strong serum and a non-virulent, old culture, for sixteen to twenty hours at 37° C. was only observed in cases of typhoid fever. The presence of such a reaction would indicate the presence of that disease. In occasional cases of typhoid fever, even late in the disease, such a reaction is not obtained. Its absence cannot, therefore, be accepted as excluding the diagnosis of typhoid in a given case in the presence of other signs of the disease. The same statements may be made regarding strong solutions of dry blood employed in the same way. This and other methods of using the test will give slightly different results if cultures which are virulent be employed, and the results must be judged accordingly. The ability to cause clumping and lessened motion of typhoid bacilli is not peculiar to the serum from cases of typhoid, and varies in degree in different cases of typhoid fever. In the earlier stages of the disease and occasionally late in its course, the effect produced may not exceed that caused by serum of corresponding strength from healthy persons or from those sick with other diseases. Whatever method is employed, with the possible exception of that in which large quantities of material are examined in test-tubes, it does not seem possible to place all cases in either the positive or negative group. Beside those which may be classed with a considerable degree of accuracy, there remains a considerable number of cases which must be placed in a group giving doubtful reactions. This has been insisted upon by Brannan,[3] Kolle, Ziemke, and Jez.[4] These cases may or may not be typhoid fever, the diagnosis resting upon the other signs of the disease.

Dry blood gives less accurate results than fresh serum, and is to be used only when fresh serum cannot be obtained. It is very difficult or impossible to get serum of a definite strength from it.

In conclusion, it is my pleasant duty to thank Drs. J. B. Herrick, A. R. Edwards, and G. F. Butler for their kindness in allowing me the use of the abundant material in their wards in the Cook County Hospital, and the members of the resident medical staff for many favors extended me during the carrying out of these observations. The diagnoses have been accepted as made by the medical men in charge of the patients, and have not been influenced by the results of the test.

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THE PATHOLOGY AND TREATMENT OF ACUTE GONORRHEA IN THE MALE.[1]

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In compliance with the courteous invitation of the president of this Association, I shall present a short and practical survey of the pathology and treatment of acute gonorrhea in the male. Within the last few years so much has been written on this subject in a loose, quackish, and unscientific manner, and such brazen recklessness has been indulged in concerning methods of treatment and alleged wonderful and rapid cures, that the time is ripe for a clear, practical, and conservative discussion of it in all its phases. By the perusal of the various recent sensational papers on the treatment of gonorrhea, one is impressed, first, with the flippancy of tone as to the real nature of gonorrhea; and, second, with the utter lack of appreciation, we may say even ignorance, of the pathology of this virulent, infective process.

When we read that a certain method of treatment is so successful that it fails in less than two per cent. of cases, that sixty per cent. of cases of acute gonorrhea are cured in ten days, thirty per cent. in fourteen days, and that in only two per cent. is a cure postponed in consequence of the carelessness and unwarranted indulgence of the patients, we naturally wonder why it is that we cannot attain such ideal results. Then, when we further see it claimed that eighty-two cases of genuine gonorrhea are cured in three days, that by this miraculous method of treatment anterior urethritis never extends into the posterior urethra, and that the classical complications of gonorrhea are never seen, we marvel at the recklessness of the statements, and sincerely hope that the profession at large will not be influenced by such unsupported assertions. It is most unfortunate that in the treatment of urethral gonorrhea and its sequelæ so many fads and useless innovations are indulged in, so much intemperate medication and manipulation are employed, so much useless and dangerous instrumentation is practised, and in late stages so much unnecessary cutting is done. For the care of urethral troubles, mild, judiciously-applied treatment is especially called for, yet by very many surgeons this delicate canal, the urethra, is dealt with with a heavy hand. Undoubtedly, our more precise knowledge of the pathology of gonorrhea, of its bacterial origin, and of the value and necessity of antiseptic measures have taught us many advances in treatment, still there is much in the older methods which has proved to be beneficial, and which should not be unthinkingly cast aside as out of date.

Fortunately, our knowledge of the gonorrheal process is quite complete, and its symptoms and secretions can now be so intelligently studied that the intimate course of the disease is clearly revealed to us. In the majority of acute cases of gonorrhea the infecting agent is the gonococcus, and in a small minority the infection is produced by staphylococci and streptococci. As a rule, it may be stated that the severe order of cases is produced by the gonococcus (which also may in some instances give rise to mild cases), and that very many subacute cases, particularly in second and late infections, are caused by the ordinary pus-microbes. As regards the acuteness and severity of the attack, much depends upon the potency and quantity of the infecting agent received, and also upon the susceptibility of the tissues of the indvidual. These conditions, namely, the potentiality of the poison and the susceptibility of the individual, are, therefore, the essential causes or factors in the greater or lesser severity, or of the more or less mild character of the attack of gonorrhea. In actual practice we find in cases of acute gonorrhea the most varied gradations of severity and mildness, and that while many cases are very rebellious to proper treatment, others yield more promptly, while in a few a cure is readily produced. It will thus be seen that in order to formulate reliable data as to the value of a method of treatment, the intimate nature of the cases so treated should be clearly understood and stated. It follows, also, from the fact of the marked differences in the character and severity of cases of acute gonorrhea that they require variations and modifications of treatment, and consequently that routine measures are unscientific and unreliable. These facts should always be well borne in mind by the surgeon in reading of the wonderful exploits and claims of the promotors of routine methods for the rapid cure of this disease. It may be confidently affirmed that these stencil-plate schemes of treatment will never be accepted as permanent additions to our therapeutics.

In all probability the gonococci are most commonly conveyed to the infected individual by means of pus-cells, in which they are inclosed, and they may also be transferred in a free state in a mucous or serous secretion. Being sucked from before backward into the urethra by the capillary attraction which exists in that canal, these germs then become diffused over the surface of the mucous membrane of the fossa navicularis, and then, by reason of the susceptibility and fertility of the soil, rapidly

[1] Introductory essay to a general discussion on "Gonorrhea," read before the New York State Medical Association (Fifth District Branch), May 24, 1898.

or slowly increase in numbers. In this stage of microbic colonization, if the gonococci are numerous and virulent, and if the tissue susceptibility is well marked, a short period of time only elapses before the disease is well under way. If, however, the microbe is less potential and the tissues offer resistance to its virulence, the period is more or less prolonged. Now, it has been very clearly demonstrated by microscopic studies of infected mucous membranes and of the secretion obtained within a short time after infection, that at first the gonococcus grows on the superficial layer of the mucous cells, and there it increases in area like a sod. This is the way in which the infecting agent gets a foothold, and when that condition is fully accomplished the inward invasion promptly begins.

Applying these well-demonstrated facts to actual practice, we find the following conditions: the infected individual, one or several days after coitus, may feel a sensation of warmth or of tickling or smarting in the fossa navicularis, and he may observe that the lips of the meatus are slightly glued together or that there is a small drop of clear mucus at the urethral orifice. If the surgeon can catch the case at this time he will find that this secretion, when spread on a glass slide, is clear serum, in which are a few particles of white granular matter, like broken rice or molecules of suet. When properly stained, mounted, and placed under the immersion-lens, the microscopic field shows many epithelial cells, usually of the columnar, and perhaps of the flat, variety. Scattered more or less numerously over the surface of these cells the gonococci are seen, and they also may float free in the serum. At this time there are no pus-cells in the specimen. These clinical and microscopic facts incontestably prove that this infecting agent is yet on the superficies of the mucous membrane, and that the inward invasion, though imminent, has not yet occurred. Here, then, is the opportunity for the abortion of the infection, and if ever cases are cured in a few days it is those in which these conditions exist. If at the time we can so act on the parts that we kill and dislodge the virulent micro-organism, we may abort the impending infection, but if we fail we may only delay the onset of acute symptoms or we may hasten their development. Unfortunately for the human race, men, as a rule, are not sufficiently aware of the gravity and the portent of the seemingly mild and insignificant symptoms of an oncoming gonorrhea, and they rarely consult the surgeon at this important period. The morbid process, therefore, being unchecked, the invasion of the deeper tissues is more or less promptly effected. With the increase in the number of the micro-organisms toxins are produced, which quickly disintegrate the mucous membrane and rend the cells asunder. Then between the cells the gonococci, in Indian-file or in swarms, pass inward, and when they reach the submucous tissue they encounter the blood-vessels, which immediately pour forth vast quantities of leucocytes, which, by phagocytosic action, englobe the microbes, and in a strong current carry them into the urethral canal. The patient then observes that he has a profuse discharge and that he suffers from acute symptoms. The purulent secretion of this florid gonorrhea then shows very clearly marked features. To the eye it is yellowish and of decided thick consistence, and under the microscope it is seen that it is composed of pus-cells, many of which contain gonococci, which also may float free in the serum. Having gained a hold in the region of the submucous tissues, this micro-organism then produces a very severe exudative inflammation, attended by the profuse development of small, round cells. Thus we have acute microbic invasion with the destruction of the superficial layers of epithelium, more or less disintegration of the membrane attacked, great irritation and hyperemia of the vessels and much cellular exudation. This constitutes acute gonorrhea. In the majority of cases the infective process promptly travels backward as far as the bulb, where it may stop, but as a rule it creeps onward and involves the posterior urethra.

Gonorrheal inflammation is peculiarly prone to remain active, and by its persistency the submucous exudation is much increased, and a catarrhal condition of the mucous membrane is produced. We, therefore, have to treat a mucous membrane which is more or less damaged, a submucous tissue from which we must cause the absorption of tissue exudates, and dilated and inflamed vessels which have lost their normal tonicity. In addition, while we are causing the tissues to heal, we must so act upon the gonococcus that its virulence is destroyed, and then it withers and dies. It will be seen that in the list of requirements necessary for a cure I have placed the killing of the gonococci last, and I do so with a purpose. Too much stress is thoughtlessly laid upon the virulence of this microbe to the exclusion of the pathological condition which it produces. While we may use in moderation antiseptic agents, our aim should always be to allay and cure the inflammation of the tissues, for that is the morbid condition in which the microbe finds nutrient soil, and in it it luxuriates. Therefore, when we cure the inflammation the microbe dies of inertia and famine, its death being produced by indirect means.

The scheme of most of the new quick-cure treatments consists in the irrigation of the urethra with

some antiseptic solution, chiefly of permanganate of potassa, and also of bichlorid of mercury. The most blatantly advertised treatment of gonorrhea, known as the method of Janet, is essentially based on the fact that, as a result of a certain technic, the posterior urethra and the bladder can be injected from the meatus without the aid of a catheter. It is assumed that the catheter may not only act as an irritant, but that it is a fruitful source of infection. Janet uses an irrigator or a fountain-syringe, to which is attached about six feet of India-rubber tubing of 30 F. caliber. Into the distal end of this tube a goodly-sized conical glass nozzle is inserted, while an India-rubber stop-cock completes the apparatus. The reservoir for the injection, whatever it may be, is elevated above the patient about two feet, when the anterior urethra only is irrigated, and about four and a half feet when the posterior urethra and bladder are medicated. The patient, after urination, is placed on his back, and the conical nozzle is well, but not forcibly, introduced into the meatus; then the current is allowed to flow. The therapeutic agent employed by Janet and his followers is permanganate of potassa dissolved in warm water. The solutions vary in strength from 1:10000 of water to 1:4000. Toward the end of the treatment, with the decline of the acute symptoms, the strength may be 1:5000. For the irrigation of the anterior urethra about one pint of injection may be used, while for the bladder two lavages or irrigations of about a pint each may be introduced.

By this treatment Janet claims that he not only aborts incipient gonorrhea, but promptly cures cases in the acute purulent stage. This treatment of Janet must, of necessity, be administered by the surgeon, to whom the patient must go once, or perhaps twice, a day, morning and evening.

This treatment, and other similar ones, certainly cut short the severe symptoms in many cases, and quite promptly cause the purulent discharge to become mucopurulent. These results are then paraded as astonishing, and cases presenting them are looked upon as having been cured. When these enthusiasts are asked in what a cure consists, they reply: "There may be some little redness of the mucous membrane left and a little sticky discharge, but the patient is all right." It is hard to understand how intelligent men can thus deceive themselves. Many patients thus treated, knowing little of gonorrhea, consider themselves cured; others see that they are really not cured, and they disappear, and their cases are registered on the books as cured. Then, again, in this sticky condition antiblennorrhagics and the usual astringents are very often used to complete the cure, but if they are successful the credit is given to the heroic remedy which calmed inflammation and more or less rapidly changed the character of the discharge.

In the majority of these cases there can be no doubt the patients are not in any sense cured. They have been rapidly pushed into the terminal stage, which in very many cases has no end. Now, if we study these cases carefully (as, so unhappily, it is our frequent duty to do) in the light of the pathology of the gonorrheal process and of their pathological course, we see that the treatment has caused a much greater exudative inflammation into the submucous connective tissue than is seen in cases temperately treated, and that the catarrhal inflammation has been brought down from free suppuration to the production of a thick mucopurulent secretion. This is shown in the earlier times by the decidedly full, tense, and thickened condition of the pendulous and subpudic urethra, and by the examination of the urine, which, strange to say, is not insisted upon by the authors of these rapid-transit treatments, as they are called. Then the patients, if they have escaped epididymitis, have symptoms of posterior urethritis, urethro-cystitis, and often bladder incompetence, and more or less incontinence. They often, further, suffer from urine-dribbling, which is due to the infiltration into the urethra walls, which prevents the canal from performing the final expulsive acts of urination. As time goes on this exudative process, which involves nearly, if not all, of the anterior urethra, and perhaps the posterior part also, produces connective tissue, and as a result the canal is more and more constricted, until in some very bad cases a condition bordering on stenosis is left, accompanied by all the distressing conditions incident to the blockade of the bladder. This picture is not one particle overdrawn, but is based on the unbiased study of many cases of acute gonorrhea which have been railroaded into the terminal stage.

It may be claimed by those who advocate this form of treatment that they never see these results. Perhaps they fail to appreciate the deplorable condition the patients are left in, but as a rule these same patients think that they have had enough of that sort of treatment, and they have sense enough to go elsewhere. It follows, therefore, that a treatment which is at once sufficiently active, but conservative and based on a knowledge of the pathology and course of gonorrhea, is the one which in the end will give the best results and spare the patients much trouble and suffering, and perhaps permanent infirmities.

The enthusiasts of the new methods in gonorrheic therapeutics are so wedded to their one manipulation, namely, the hydrostatic irrigation with per-

manganate of potassa, that they pay no heed to the general care of accessory symptoms. So long as they are firing heavy charges of their favorite antiseptic against the gonococcus there is no need to do more. That is the alpha and omega of their creed. Now, this irrigation treatment, which has been experimented with in America for about fifteen years (long before this Janet irruption broke out), is worthy of serious consideration, and it is unfortunate that the method has been exploited mainly by enthusiasts and theorists, who have indulged in it as a fad or a hobby.

Seeing that gonorrhea is a virulent process set up by the gonococcus, it is evident that if we can do so without increasing inflammation, we should act directly upon the parts attacked. The trouble with the so-called advanced therapeutists is in two directions: First, they have been so carried away with their antiseptic gonococcide agent and procedure that they have shut their eyes to the old and tried means of symptomatic alleviation; and, secondly, by the vigor of their hydrostatic attack upon the microbe they intensify and cause to extend more deeply the submucous cellular infiltration incident to gonorrhea, and so impair or damage the resiliency of the parts (urethral musculature and compressor urethræ muscle) that they loose their tonus. They also very frequently produce chronic prostatic congestion, which shows a great tendency to remain, uninfluenced by proper treatment.

These statements are in no way overdrawn, since they are the result of extended personal observations and of many competent and unprejudiced men. What should be a boon to the human race is converted into a curse by reason of the unnecessary heroic and incessant manipulation incident to the method. It is true, nevertheless, that infinite benefit will result from careful conservative local medication, even in acute gonorrhea, and that it is time now to make more effort than we did in former years to mitigate and abridge the course of this affection, and I think I can show how this can be done in a simple, safe, and conservative manner.

Treatment.—If gonorrhea can ever be aborted it is in the stage of microbic colonization before the inward invasion has begun. At this time injections given by means of a soft-rubber catheter, 12 French scale, cut to a length of three and a half inches, which will reach just beyond the fossa navicularis, may sometimes kill and dislodge the microbe. The antiseptic solutions should be rather strong, and composed of either potassa permanganate, 1 to 500 or 1000; nitrate of silver, 1 to 250–500, or of the bichlorid of mercury, 1 to 1000 or 2000. Two or three daily injections of about two ounces of these solutions should be made, and, the patient being at rest, the penis in the intervals should be enveloped continuously in cold dressings. Another rather more energetic abortive method is to introduce the shortest India-rubber endoscope (two and one-half inches long) down the canal just beyond the fossa navicularis, then remove the obturator, and pass down on an applicator a tuft of absorbent cotton sufficiently large to fully and gently distend the canal, soaked in a solution of nitrate of silver (gr. xxx to ℥ i), which extends just beyond the tube, which latter is then to be very slowly withdrawn. In this way a very decided antiseptic and astringent action is produced. The parts then should be injected every two hours with lead and opium wash, and cooling dressings should be applied to the penis.

Even with all the care in diagnosis and the promptness and vigor of this treatment, we can never positively say that it will be curative. By these means I have aborted gonorrhea in some cases, but I am free to confess that I have failed in many others. It is good practice, however, when cases are seen in the very early serous stage to endeavor to abort them in the manner just detailed.

In the treatment of acute gonorrhea at the earliest days of onset it is well to employ the old-time measures, namely, to keep the patient, if possible, at rest; to allow a spare diet; to avoid coffee, spices, liquors, highly seasoned dishes, and asparagus; to administer alkalies with hyoscyamus; to prescribe moderate purgation, and in general to follow an antiphlogistic course. No treatment is rational which does not include these wise and salutary measures.

Now, in the florid stage of gonorrhea, with its profuse yellowish and perhaps bloody discharge, coming from a very highly inflamed and swollen mucous membrane, it becomes a nice question whether one can apply local medication. In very severe cases for the first few days it is best to soak the penis every few hours in hot, concentrated boric-acid water, and perhaps by means of a penis syringe, having a soft-rubber nozzle, to gently inject one or two ounces of this fluid into the anterior urethra. As a rule, this treatment alleviates the patient's sufferings and lessens the inflammation. With the onset of amelioration, which usually occurs in a few days, we can adopt a more radical local treatment. To this end we introduce as far as the bulb the soft and compressible, bulbous-ended Mitchell's reflux catheter, which can be gently passed, without discomfort or any damage, down to the bulb, and through it we can slowly throw 2, 4, or 6 ounces of the warm boric solution, which returns and drops out of the meatus. As a result of these procedures the patient becomes much more comfortable, and

there is a perceptible improvement in the urethral inflammation. When this subsidence of the very acute stage is noted, we can go a step further with our local applications. Thus we may replace the boric solution with warm lead-water, or we may use a warm solution of permanganate of potassa, not stronger than 1 to 4000. Under these mild graduated antiseptic measures, as a rule, much improvement will be produced. If, as so often happens, even when care and prudence are exercised, the posterior urethra becomes attacked, it may be well to employ the ordinary velvet-eyed catheter (using very small ones, 10 to 12 of French scale), and to inject some of the fluid into the posterior urethra, and then, withdrawing the eye of the instrument just outside the triangular ligament, to well irrigate the anterior urethra. This mild, carefully-applied, local medication reduces the acute inflammation, and in that way renders the tissues less susceptible to the action of the micro-organism; then as the treatment is carefully kept up the microbes die, since the condition of the tissues is not favorable to their nutrition. When the acute suppuration begins to subside the patient may be instructed to use injections by means of the ordinary penis syringe. Of course, the injections only medicate the anterior urethra, but there can be no doubt that some benefit is produced. The various preparations of zinc, lead, alum, thallin, and hydrastin may form the basis of these injections. In the early florid stage one treatment daily will be required, but with the onset of the terminable stage one every second day will in most cases suffice.

As the inflammation begins to decline it is always well to administer one or more of the old antiblennorrhagics, which, though now frowned upon and discarded by many of the so-called new progressive school, will still, as in the past, prove valuable adjuvant agents in hastening along the reparative process. It is obvious that should these remedies produce, as they sometimes do, gastro-intestinal disorder, their use should be discontinued.

Thus far in the treatment our aim has been to calm and abridge the acute inflammatory process, and to prevent its extension to correlated parts. With the decline of the inflammation a change can be observed by the examination of the urine, particularly that passed in the early morning, which is most important as a guide to subsequent treatment. In the acute and early declining stages of gonorrhea the urine is opaque, and its deposit is almost wholly composed of pus-cells in some of which gonococci are present. With the onset of the reparative stage the microscope shows the discharge to be composed of pus, gonococci and immature epithelium. The presence of these epithelial cells is a harbinger of good import, for they indicate that Nature shows a tendency to repair the damage done and to replace the natural covering of the urethra. In this condition she needs active assistance, and at this time the surgeon can really do valuable work. The pathological indications which at this time present themselves for relief, are: First, to cause the absorption of the round-cell submucous tissue exudation and the restoration of the tonicity of the vessels; and, second, to produce a new epithelial covering for the urethra. Experience shows that the most reliable and effective agent for this purpose is the nitrate of silver. Argonin, argentamin, and protargol are new agents advocated to replace the silver nitrate, but it is yet too early to speak definitely of their places in our therapeutic armamentarium. Nitrate of silver, however, when skilfully used will in general answer all expectations. By its stimulant action this agent causes the absorption of the submucous exudate and constringes the vessels, and by its astringent action it acts powerfully and well on the relaxed and catarrhal mucous membrane, and produces on it a new, and in the end stable, epithelium. When, therefore, the symptoms of the patient and the microscopic appearances of the discharge indicate that the morbid process is about to decline, and this may be as early as the tenth or fourteenth day, or as late as the twentieth of treatment, it is our duty to begin the use of this invaluable agent. If only the anterior urethra is involved, we may use the reflux catheter, but if the totality of the canal has been attacked (as it so frequently is), the 10, 12, or 14 French velvet-eyed catheter should be employed. At first an irrigation of about 2 or 4 ounces of a warm solution of nitrate of silver, 1 to 10,000 or 8000 may be employed once a day. When the effect is good, as shown by the comfort of the patient and the lessening in the quantity of the pus-cells and increase in the number of epithelial cells in the secretion, the strength of the solution may be increased. As a rule, in most of the favorable cases a solution of 1 to 2000 is quite early reached and is well borne; then, as improvement occurs, the irrigations may be discontinued and injections of a few drops of solution of nitrate of silver (once a day or once every second day) 1 to 1000, 500, and 250, may be thrown into the anterior urethra or into its totality, according to the extent to which it is involved.

Examination of the urine will, as the case progresses toward cure, show that pus gradually disappears; epithelial cells are at first abundant, but then they grow progressively less numerous until they disappear entirely. With the cessation of the process no tissue elements can be seen in the urine when ex-

amined under the microscope, and in a few days the little excess over the normal amount of mucus is lost and a cure is produced. In some cases it may be well to follow the silver-nitrate injections for a few times with solutions of sulphate of zinc and of alum.

The treatment thus detailed is very simple and not at all discomforting to the patient, and with growing experience the surgeon will be much gratified with the excellent and permanent results which are produced. By carefully examining the urine, especially the morning specimen, much light is thrown on the progress of the case, and the indications for the frequency and strength of the silver-nitrate solution may thus be learned. In general, it may be stated as the law that as long as there is much free pus and no epithelium in the specimen the solutions should be of the weaker grades, but that as soon as epithelial cells begin to appear the time is ripe for progressive increase in the strength of these solutions.

If this treatment is carefully carried out the integrity of the mucous membrane is restored and annoying relapses are not suffered from, and it goes without saying that stricture-formation is prevented. Then, again, it is unnecessary to use the antiblennorrhagics so freely and constantly as we did in years gone by, and this is a material gain for the comfort of the patient.

With the use of the small, delicate catheters no damage whatever is done the urethra, and the compressor urethræ muscle is not overtaxed and left in an atonic condition, as it is so frequently by the Janet method. Then, again, all the other distressing and discomforting conditions mentioned early in this essay are avoided.

Lastly, let me say a few words as to the length of time for a cure by the treatment just advocated. I think that the public and the profession are to-day being grossly misled and deceived by men who claim that gonorrhea is cured in three, ten, and perhaps fourteen days. I have seen very many of these so-called cures, and have found them to be failures (in many instances the patients being left in a deplorable and incurable condition), and many surgeons of high standing have informed me that they have had a similar experience. Having studied this subject in an unbiased and painstaking way for over thirty years, and having used all agents and methods of progress, I am firmly convinced that if a man is fully cured of acute gonorrhea in from four to six weeks he is a really lucky individual. On the other hand, I well know how readily many late urethral suppurations are cured, and I am firmly convinced that most of the extraordinary statistics of rapid-transit cures now so constantly and unblushingly paraded are based on the observations of these frequent relapses, which even the second-year student in medicine can cure very promptly.

FAVUS, A CLINICAL STUDY, WITH SPECIAL REFERENCE TO TREATMENT.

BY A. D. MAYER, M.D.,
OF NEW YORK.

FAVUS, until of recent years considered as comparatively rare in this country, has within the last decade shown such a marked increase that at the present time it may be regarded as a rather common affliction—one which should prove a source of anxiety to the profession as well as to the public at large. This rapid multiplication cannot be ascribed, however, to the infectious nature of the disease; it is a result rather of the migration to this country of a class of immigrants among whom the affection is very prevalent, namely, the Austrian, Hungarian, and Russian element. Favus continues to be a rare dermatosis among the strictly American population, although occasional cases present themselves.

In the skin service of Dr. C. W. Allen, at the Good Samaritan Dispensary, there were 100 instances of favus, 85 males and 15 females, among 3350 dermatological cases treated from April 1 to December 31, 1897. It should, perhaps, be stated that this ratio is much larger than would be found in other city dispensaries, and is undoubtedly a result of the location in a district and among a people in whom favus is prevalent.

The disease usually begins in childhood, and is most common between the ages of eight and fourteen years. Our youngest patient was but one and one-half years of age, the oldest a woman of fifty. But few of the cases seen developed in this country and most of them were of several years' standing. Filth and overcrowding are the *achorion's* strongest allies, hygiene and cleanliness its most deadly foes.

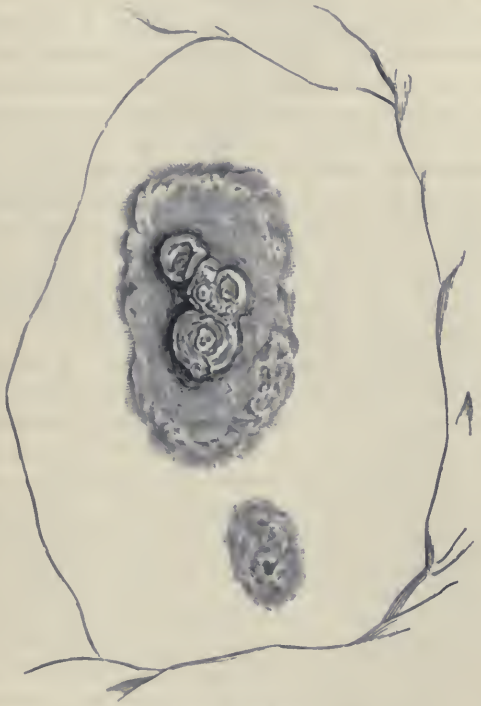
The diagnosis is not difficult in a typical case or in one that has not recently been treated. One would instantly make a correct diagnosis if the scalp were honeycombed with sulphur-yellow, cup-shaped crusts pierced by one or more hairs, the hairs themselves dry, friable, ash-gray, and lusterless, and if patches of alopecia, with their shiny, parchment-like skin were present.

For comparison let us take another case such as is more frequently presented. The mother probably with a view to testing our diagnostic ability, kindly oils and scrubs the head of her child before bringing it to us; in consequence we see only a few small areas of baldness and a diseased scalp which might readily be taken for impetigo, pediculous dermatitis, trychophytosis, or favus. Here, in order to obtain a better view of the head, it is important that the hair be clipped; in fact it is frequently necessary to expose the entire scalp in order to arrive at a diagnosis from the clinical picture alone. If then we see a dry scalp studded with small, red, circumscribed, and irritated, circular depressions, covered by a delicate shining epidermis, patches of cicatrization and alopecia, and perhaps a few cup-shaped crusts, we will not be at a

loss for a diagnosis. If one of these crusts be removed with care we find beneath it a delicate shining epidermal film covering the depression, or if this has been destroyed, we see a glazed, oozing, slightly depressed surface. The yellow crusts are said to have a peculiar mouse-like odor, but I have been unable to verify this in the cases I have seen.

Favus, especially in the early stage, is chiefly to be

FIG. 1.



Favus of the skin.

differentiated from ringworm. In both the hairs are dry and lusterless, but in the latter they are brittle and fracture easily. When this fracture is only partial the hairs appear to be curved, irregular, or twisted. On account of their loss of elasticity any attempt to bend the hairs causes a partial breakage. In epilating, the shaft usually breaks leaving a small projecting stump behind, while in favus, the entire shaft and bulb come away, and we find the hair-shaft split rather than broken.

In many cases the microscope must decide the diagnosis, yet when we investigate the literature on this subject we find very meager descriptions of the differential characters of the microsporon and the *achorion Schoenleinii;* in fact not many years ago they were considered by many, varieties of the same fungus.

In preparing a specimen for examination a portion of the sulphur-yellow crust and a few hairs from the center of a patch should be selected and spread on a glass slide; a few drops of a 10-per-cent. solution of liquor potassæ are added, and in about five minutes the specimen is ready for examination The potassa is absorbed with a piece of blotting-paper and a drop or two of glycerin added before putting on the cover-glass.

The lens employed should have a magnifying power of from four hundred and fifty to nine-hundred diameters. The crust is seen to be composed almost entirely of fungus elements. The *achorion Schoenleinii* is a fungus growth presenting an intricate network of mycelial threads of varying caliber, some fine, others coarse, on the walls and in the meshes of which are multitudes of spores of manifold form. The individual mycelia are segmented at short intervals, form numerous branches and ramifications, and are found within and outside the hair. The conidia vary in size from 2.5 to 5 μ and differ considerably in shape; some are round, others oval, angular, kidney-or biscuit-shaped, nucleated or non-nucleated. The large-spore tinea, or trychophyton megalosporon, with its broad (2 to 4 μ) mycelia and large, round, highly refractile spores (4 to 6 μ in diameter) can hardly be mistaken for favus.

The trychophyton microsporon more closely resembles the achorion. Its mycelia are almost transparent, with parallel edges, and are about 2 μ in diameter. They ramify inside and outside the hair, often dividing by fission, and are segmented at regular intervals by septa containing granular bodies and cells. At the bulb the mycelial threads form a fringe, the distal ends of which terminate in mycelial spores, said to be characteristic. The conidia or spores are small, round, or slightly oval in shape (2 to 2.5 μ in diameter), of nearly uniform

FIG. 2.

Hair infiltrated with Achorion Schönleinii.

size, and while occurring within the hair-shaft are most abundant on the outside where they form a mosaic sheath about the hair.

The mycelia of the trychophyton are longer and penetrate the hair-shaft for a greater distance from the root than do those of the achorion. The individual favus mycelium is shorter and not so slender, and is divided

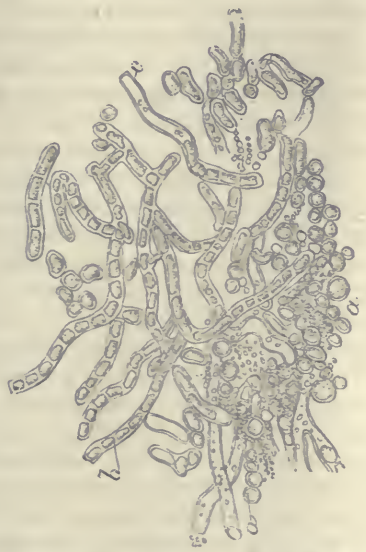
into small segements by very short joints which readily break up into conidia. The latter are cells which spring directly from the mycelial threads, and then become detached; that is, they do not go through the process of fructification.

As stated before, the conidia of the microsporon are of uniform shape, while the favus spores possess multiplicity of form. The largest spore of the former is about 2.5 μ in diameter, or about the size of the smallest of the achorion conidia.

Kaposi says "Trychophyton consists chiefly of long, sparcely branching, moderately broad and uniform mycelia and few conidia." On the other hand, Aldersmith says "Mycelia are seen as minute threads, branching and infinitely ramified, running up beneath the sheath of spores and also in the whole substance of the hair. The broken stump swarms with conidia."

The favus scutulum consists almost entirely of fungus

FIG. 3.



Achorion Schönleinii; (*a*) spores; (*b*) (*c*) sporophores (after Cornish and Ranvier).

elements, while the yellowish crust of ringworm is made up of pus-corpuscles and disentegrated epithelial cells and few fungi.

Favus is an exceedingly obstinate disease to cure. Before beginning treatment the patient, or his parent, should be informed that several months, perhaps a year or more of constant medication is required for the complete eradication of the disease; and he should be impressed with the necessity of regular attendance.

A child with favus should be isolated, so far as possible, it should sleep alone, and have a separate washbasin, towels, brush, comb, etc. School attendance is, of course, absolutely forbidden. A hair-clipping initiates our treatment. In former years Dr. Allen strenuously opposed the use of clippers for cutting the hair of favus and ringworm subjects, especially in institutions, claiming that the machine could not be properly disinfected, and afforded a nidus for the achorion and thus became a source of reinfection and a means of propagation of the disease. Recently, however, he has introduced a system of dispensary hair-cutting and it is now our practice to clip the hair of all favus subjects with a pair of clippers used exclusively in these cases. Lysol in its pure state is employed as a means for rendering the machine aseptic, and also acts as a good lubricant; by constant immersion in this fluid the instrument remains bright and free from rust, and is always ready for use. After cutting the hair the clipper is thoroughly sterilized in boiling water and when dry replaced in the lysol. Before using, the lysol is washed off in hot running water.

One chief object in cutting the hair is to keep these infectious individuals out of the barber-shop, where they habitually resort without apparent objection on the part of the barber. Legislation has been enacted, at least in this city, to keep these children out of school, but the restriction of hair-cutting, in barber-shops, which is just as important, has been ignored. It seems a pity that these children, of whom there is a large number in this city, should be denied the privilege of a public-school education during the necessarily prolonged period of treatment. The establishment of a public school on the lower East Side, to be attended only by children suffering from favus and ringworm as advocated by Dr. Allen deserves further consideration.

After clipping the hair, if the scalp is crusted and dirty, an oil or ointment is prescribed with which to soften the crusts, which are then removed with tincture of green soap. When the patient returns after a few days with a clean head, a 5-per-cent. chrysarobin ointment is ordered and epilation begun. Patients are furnished with epilation forceps by the dispensary at cost price, and some member of the family is instructed how to properly epilate. We insist that the patient come to the dispensary three times a week under penalty of subsequent treatment being refused. When the reddened patches have been well epilated and the scalp looks fairly clean, what we term "chrysarobin paint" is applied. This is a 10-per-cent. solution in collodion and is applied to the closely clipped scalp with a stiff-haired varnish brush two or three times a week. The paint adheres firmly to the short hair and to the scalp, and thus insures continuous medication, while the use of an ointment is frequently neglected or occasionally totally disregarded by the patient. Another advantage lies in the fact that the chrysarobin cannot be disseminated, and hence does not produce a dermatitis of the neighboring parts or cause eye involvement. Not only do we obtain the beneficent action of the chrysarobin, but the dry collodion, by excluding the air from the underlying structures, in itself probably acts as a germicide, or at least tends to prevent the growth and proliferation of the mycelia and spores, since the favus fungus is aerobic and cannot flourish in the absence of oxygen.

When the diseased area is large or the patches scattered over the entire scalp the "yellow-kid" appearance of the head is an objection, and in private practice might prove an obstacle to the employment of the paint. But in private and among the educated and more cleanly population, treatment as a rule will be resorted

to before the disease has made much progress, so that the patches under treatment can be hidden by healthy hair, and at the same time the diseased hair be kept closely cropped. This is especially true in female subjects.

If we desire to inspect the head at any time before the paint has worn off the collodion crusts may be removed by oil or ether. The underlying scalp always looks smooth, is free from dirt, and the diseased patches are readily recognized. If fresh areas of disease have cropped out the ointment may again be used and epilation practised, to be followed after a week or two by chrysarobin-collodion. When too much inflammatory reaction follows the employment of chrysarobin, it should be discontinued for a few days, and a 10-per-cent. ammoniate-of-mercury ointment substituted.

The duration of treatment depends upon the duration and extent of the disease. Small areas may be cured in a short time, but usually a year or more of persistent treatment is required for the complete eradication of instances that are at all extensive. The conscientious use of the epilation-forceps by the patient at home shortens the treatment and is a great aid to the physician.

CLINICAL MEMORANDUM.

AN EXTERNAL URETHROTOMY, FOLLOWED BY TWO SUPRAPUBIC LITHOTOMIES ON THE SAME PATIENT WITHIN A PERIOD OF NINE YEARS.

By L. E. NEWMAN, M.D.,
of St. Louis, Mo.

It does not often fall to the lot of a surgeon to have to perform three operations as important as the above named upon one individual, but the patient, whose case I am about to report, has been subjected to these and is now well, with every prospect of living out a full three score and ten years. It is a source of extreme regret that I am obliged to confess that I have lost or mislaid the notes of the first two operations, and in consequence I shall have to trust to my memory to supply such points as I cannot obtain either from the patient or from records of St. John's Hospital, at which place all three of the operations were performed.

R. M. C., native of the United States, aged fifty years, by occupation a clerk, came to me from Fort Worth, Texas, in February, 1889, complaining of difficulty in micturition due to stricture of the urethra following gonorrhea, which he had contracted at Richmond during the War of the Rebellion. His condition was truly pitiable, for when I requested him to urinate in my presence he was obliged to let down his trousers and then by stooping over and great straining a few drops of urine escaped from the meatus, but the greater amount passed through numerous fistulous openings in the perineum. The urine was dark and foul-smelling, and the cystitis produced constant vesical tenesmus, which was naturally intensified by the obstruction to the flow. He told me that a few years before he had had an attack of sudden retention of urine, which had resulted in rupture of the urethra and extravasation, with consequent sloughing of the perineal tissues and scrotum, and since that time, as he put it, he had "grown a new bag." My examination revealed a stricture about one inch from the meatus, firm and unyielding, as strictures in that region are apt to be, another, about three and one-half inches down, and a third and more serious one, permitting with great difficulty the passage of a filiform, in the deep urethra.

I proposed an operation, to which he readily consented, and at once sent him to St. John's Hospital. Under chloroform, and ably assisted by the late Dr. F. D. Mooney, Dr. P. Wilson of Dennison, Texas, and several other medical friends, I first performed an internal urethrotomy on the two strictures in the pars pendula with Maisonneuve's instrument; then, putting the patient in the lithotomy position, I performed an external urethrotomy for the deep stricture, thoroughly curetting the fistulæ, of which there were six. I tied the catheter in position and ordered morphin for pain, should it become severe. The subsequent history of this part of the case was practically uneventful, the patient making a complete and uninterrupted recovery and being back at his desk six weeks from the date of the operation.

One year later I saw him and found that he had neglected to use his sound regularly, with the result that the two anterior strictures had contracted to such a degree that I found it necessary to divide them again, which I did with Otis' urethrotome, and warned him that such neglect would undoubtedly result in disaster to him if again repeated. I also prescribed salol on account of the cystitis, and subsequently one of the physicians at his home washed out his bladder with what he said was a solution of silver nitrate, which is possible in view of the pain produced by it. I heard no more from him for more than three years after this last visit and had practically forgotten about the case when in the spring of 1894 I received a letter from him stating that he was in a worse condition than ever, and enclosing a small calculus which he had passed per urethram a day or so before.

He stated that the passage of the stone had given him great pain for many hours and that after voiding it his symptoms had been unrelieved. I might mention, *en passant*, that the very fact of the stone, which was as large as a marrow-fat pea, having passed through the urethra was evidence that the strictures had not greatly contracted and I naturally concluded that the condition with which I had to deal was one of stone in the bladder with its accompanying cystitis and not the old trouble of multiple strictures of the urethra. This condition was due, in my opinion, to the accumulation of the salts of the urine upon a particle of mucus or pus within the bladder; it certainly did not arise from any renal affection as at that time there were no symptoms referable to these organs.

He was very despondent and as he had been told that there were drugs and springs whose effect was to dissolve "gravel," and thus enable him to get well without again having to undergo a surgical operation, he asked my opinion, which was that it would be utter folly to attempt

a cure in that way and I accordingly urged him to come to St. Louis as soon as he could get his affairs in shape. In spite of this advice he went to some mineral springs where he thought he obtained some relief, and it was not until June that he again consulted me. Immediately upon his arrival I sent him to St. John's Hospital and performed the first suprapubic lithotomy on him.

I did not sound him as a preliminary measure because I did not deem it prudent to subject him twice to the danger of the anesthetic, it being my intention to sound him after he had been placed on the table, and if I found a stone to then operate, and if not, possibly to deal with the case by draining the bladder above the pubes. The previous passing of the stone, coupled with the existing symptoms, however, I think justified me in making the diagnosis and telling him that I proposed to cut him. Under ether I passed a searcher and came upon the calculus and then proceeded to the operation which proved extremely easy. Having inflated the rectum with a rubber bag I found not the slightest difficulty in reaching the bladder, and was very much surprised at the space between the lower end of the incision and the upper without coming upon the prevesical fold of peritoneum, which was not in the field at any time during the operation. Two stones, the combined weight of which, without including the loose urinary sediment washed out, was 370 grains, were removed and a drainage-tube left in the bladder until the irritation which it caused led me to remove it four days later. The bladder was washed out daily with hot boric-acid solution, and aside from the discomfort produced by the wetting of the dressings and clothing the patient's condition was so good as to astonish those of his friends who had seen the condition in which he was when he arrived. He was back at work exactly twenty-seven days after the operation. I instructed him to be careful lest the cystitis return, and with that end in view I ordered the daily washing out of the bladder through a soft catheter until further orders. How faithfully my instructions were carried out the subsequent history will show.

Although he passed the sound upon himself regularly once a week he failed entirely to carry out the other instructions after the first few weeks, with the result that in September of this year (1898) I received a letter from him stating that he was in a terrible condition and that it was impossible for him to retain his urine at all, and that it was constantly running from him and necessitated his having to carry a urinal. He also stated that he felt quite sure that he had another stone and wanted again to know if there was no way of getting rid of it without another operation. I, of course, replied that there was no way and advised him to come to me at once. On Monday, October 3rd, I received a telephone message from one of his friends requesting that I call at his home without delay, as my patient had just arrived on the train and he feared was dying. I hastened to make the call and found my former patient, who had now reached his sixtieth year, in a condition closely bordering on dissolution. His weight, which in health had been in the neighborhood of 150 pounds, was now not more than 80, he was haggard and drawn, pulse 128, and he was under the influence of narcotics, which had evidently been given to him for some time to control the frightful paroxysms of pain. His condition was such that I feared I should never be able to get him on the table in order to sound him, much less to perform an operation as grave and attended by as much shock as lithotomy in the event of my finding a stone. However, as it was necessary to do something to try and avert the apparently approaching fatal issue, I at once introduced the searcher and immediately came upon a stone of considerable dimensions, but I did not prolong the examination beyond the time absolutely necessary for making a diagnosis. He was so weak and so completely under the influence of opiates that the examination was practically unnoticed; but as his condition had so alarmed his hosts, who were fearful that he would die on their hands, I had him removed to the hospital, where I proposed to attempt by nourishment and stimulants to get him into such a condition as would justify an attempt at operation to relieve his symptoms.

With that end in view I put him on salol, milk punches, and concentrated nourishment, and ordered the bladder to be washed out daily with hot boric-acid solution. I hoped in a week or so to get him into something like a fair condition to bear the ordeal, although several of my medical friends expressed the opinion that he would never live through it even if I got him on the operating-table. He began to slowly gain in strength, so that on Sunday, October 9th, I concluded to make the effort.

Having given a preliminary hypodermic injection of strychnin a few minutes before he left his bed he was taken to the operating-room and the administration of chloroform begun, but it was borne so badly that ether had to be substituted, and it was with the greatest difficulty that anesthesia was finally induced. The searcher was then introduced and through it about 4 ounces of hot boric-acid solution injected, when it was very easy to feel and hear the stone. The searcher was left *in situ* and its handle entrusted to an assistant, and the rubber bag was then introduced into the rectum and filled with water. The incision was made through the old scar and owing to the density of the cicatricial tissue great difficulty was experienced in recognizing the different structures, in great contrast to the first operation, which was remarkably easy of performance and during which, as observed before, the prevesical-peritoneal fold never came into the field. After considerable delay the bladder was finally reached and incised upon the point of the searcher, two silk ligatures having previously been passed on each side of the proposed incision to be used as retractors, when there was an immediate gush of pus and solution. The searcher having been withdrawn, the finger was introduced into the bladder through the incision, the stone located and then grasped by the forceps and removed. The extraction was rather difficult owing to the small size of the incision and the inelasticity of the tissues, and in consequence the peritoneum was torn and a loop of small intestine forced into the wound. This was immediately replaced and the tear in the peritoneum sutured with a fine continuous-silk suture. After thoroughly irrigating the bladder a rubber drain was secured in place, the

dressings applied, and the patient put to bed surrounded by hot-water bottles.

His condition immediately after the operation was anything but favorable, but reaction finally took place, so that at nine o'clock that evening he was doing well, with a temperature of 99° F. and a pulse of 84. After that the temperature never exceeded the normal, and the pulse varied between 72 and 78. He took nourishment well and was free from pain, the only discomfort from which he complained being the annoyance produced by the constant wetting of the dressings by the urine. The drainage-tube was removed on the third day, but the urine continued to flow through the wound for two weeks longer. The cystitis, of course, improved on the removal of the cause, and under appropriate local treatment. The patient left for his home in Texas on Sunday, October 30th, that is, twenty-seven days from the day of his arrival in St. Louis, and exactly three weeks from the day of the operation, with the wound entirely healed, and firmly convinced that he is hard to kill, an opinion also entertained by all who have seen the case.

The question naturally presents itself in connection with these two operations whether the selection of the suprapubic method was justified in preference to either the crushing and rapid evacuation method of Bigelow or the cutting operation through the perineum. This subject was thoroughly canvassed at the time of the first operation for stone, and it was deemed inadvisable to select lithotrity on account of the previous condition of the urethra, and also on account of the fact that drainage of the bladder through the wound was absolutely indicated. The operation of cutting through the perineum was rejected particularly because of the dense cicatricial tissues which had resulted from the sloughing after the attack of extravasation as well as the consequence of the external urethrotomy. Had the case not been complicated by these conditions there is no doubt that I might have selected one or the other of these procedures, lithotrity, more than likely, as on neither occasion were the stones either of such size or hardness as to render the operation difficult.

As mentioned above, the first operation of lithotomy was ideal in simplicity, and the ease with which the bladder was found and opened, there being ample space between the upper angle of the incision and the symphysis pubis for all necessary manipulations; whereas, on the other hand, the second of these presented grave difficulties, and the accident above referred to, the protrusion of a loop of intestine into the wound, was the direct result of the necessarily small incision, and the drawing down of the prevesical peritoneal fold into the scar of the first operation. That such an accident might have been avoided I doubt very much, and yet should it happen to me again I should certainly regard it with less dismay than the first time, as I shall have less fear of infecting the peritoneal cavity by pus and septic urine, both of which were prevented from flowing into the opening. No attempt was made to wash out the cavity.

Chloroform was used for the external urethrotomy, and was well borne; ether was used for the first lithotomy, and the patient not only took it well, but there was very little nausea after it. In spite of the fact that he had taken both anesthetics well on former occasions, I was fearful, owing to his extreme debility, that we should meet with an accident, and yet selected chloroform on account of the damaged condition of the kidneys (there were decided evidences of pyelitis), but he took this agent so badly and his condition became so alarming, that ether was substituted. In connection with the above it is appropriate to pay tribute to the care and skill which Dr. Willis Hall exercised in handling the anesthetic, and it was undoubtedly largely due to him that the operation could be completed, if, indeed, begun.

MEDICAL PROGRESS.

The Absorption of Salt Solution Through the Rectum.—ELTZ (*Therap. Monatshefte*, September, 1898) advocates the use of salt solutions in rectal injections in order to relieve thirst in cases in which water cannot be administered by the mouth. In a case of eclampsia after absorption, the patient's teeth being spasmodically closed, he found it of advantage to administer large quantities of salt solution in this manner. The fluid was absorbed, producing an abundant perspiration and flow of water through the kidneys. His experience with this method of treatment is limited, but thus far good results have followed its use, and he is inclined to think that it will be found helpful in any acute attack of nephritis associated with edema. From a pint to a pint and a half of the solution may be given at one time, and be entirely absorbed. In cases of severe hemorrhage and repeated vomiting the benefit of this treatment is obvious. It also increases the diaphoretic action of other remedies.

The General Practitioner and Earache.—SPRAGUE (*Atlantic Med. Weekly*, August 20, 1898) asks and answers the question, "What is the General Practitioner to do in cases of Ear-ache?" The pain may indicate (1) otalgia, reflex or local, with no sign of inflammation; or (2) inflammatory conditions of the middle ear; or (3) inflammatory conditions of the external ear. The pain is in itself the most important symptom, and the physician must, therefore, carefully ascertain its character, duration, and location, as well as make a thorough examination of the ear, inside and outside. In otalgia there is no disturbance of hearing and no change in the appearance of the ear or the drum-membrane. The pain is reflex in character, and comes usually from carious or unerupted teeth, ulcers in the throat or nasopharynx, tonsillitis, anemia, neuralgia, hysteria, etc. In inflammatory conditions of the middle ear there is almost always deafness from the beginning of the attack. There is more or less hyperemia and bulging of the drum-membrane, according to the character of the inflammation—catarrhal or purulent—and the amount of fluid present. The application of heat, either dry or in the form of a douche, accompanied by a good sweat and a saline cathartic, will abort most cases at an early stage. The instillation of various drugs into the external ear has sometimes a good

effect, due apparently to the heat of the fluid instilled. If the drum is much distended it should be lanced in its posterior lower quadrant, after the external ear has been thoroughly cleansed and sterilized, and the little operation should be carried out under strict antiseptic principles. If this is done the membrane will heal as soon as the discharge ceases. After the incision has been made the ear may be cleared by the application to the nostril of Politzer's air-bag. But this should not be done unless the nasopharynx has been first cleansed, so that the infectious material shall not be blown up into the ear. If there is much discharge in the nose this part of the operation had best be omitted. After all discharge has ceased and the membrane has healed, it is desirable to use the air-douche for some days to prevent adhesions, which might impair the hearing.

Young children are often unable to localize the pain in ear-ache, and so in all cases of indefinite pain in the head the membrane should be examined in order to detect trouble. If this were regularly done many serious complications would be avoided. Local measures should be tried for only a few hours, and then if they do not give relief and the membrane is bulging, it should be incised without further delay. After incision the ear may be irrigated every few hours, according to the character and amount of the discharge, with hot boracic acid or hot bicarbonate of soda solution, and the physician should keep sharp watch of the mastoid region for any possible extension of the trouble to the cells of this bony process.

Life Prolonged by Artificial Respiration for Three and a Half Hours after the Cervical Cord Had Been Crushed.—SMITH and CLEGG (*Med. Chronicle*, September, 1898) describe their experiences with a cab-driver, who, while drunk, fell from his box, striking on the back of his head. He was at once taken to a hospital, which he reached in a pulseless condition, although the heart was still beating feebly. There was no attempt at respiration. Stimulants were administered, and artificial respiration at once commenced by Sylvester's method. The radial pulse-beat soon became full and strong, but as soon as artificial respiration was stopped there was no attempt at respiration on the part of the patient. The patient became sufficiently conscious, however, to give his name and mutter indistinctly several words. There was complete paralysis of all the muscles below the neck. After two and a half hours the thorax gradually became rigid, making artificial respiration more difficult, and an hour later the patient died. There was a fracture of both the axis and atlas, and the cervical cord was crushed almost into a pulp at the level of the body of the axis. There have been several cases of fracture of the axis reported, some of them resulting fatally, and others terminating in recovery. It was particularly interesting to note in this case that after almost complete division of the cervical cord life was continued for over three hours. As the accident occurred in the neighborhood of a hospital, not over four or five minutes elapsed before artificial respiration was commenced.

Present Methods for the Operative Treatment of Pharyngeal Adenoids.—DELAVAN (*N. Y. Med. Jour.*, October 29, 1898) discusses the different methods for the removal of pharyngeal adenoids. The instruments which have been invented for this purpose may be classified into four groups, as they act upon the principle of (*a*) the curette, (*b*) the forceps, (*c*) the wire-loop, and (*d*) the adenomatome. Of the curettes, the small ring-knives are useful for operations upon the adult with the aid of the mirror and local anesthesia. Gottstein's knife, which is very popular, has the advantage of working rapidly, and the disadvantage of causing a great deal of pain, and of removing only a portion of the growth in many instances. The forceps is a much surer instrument, and can be turned in every direction to seize the masses which it is desired to remove. It causes less bleeding than cutting instruments, and altogether is the most satisfactory, according to Delavan, of any instrument yet devised for this purpose. The adenomatome is a dangerous instrument. It is scarcely possible that its blades will fit accurately the adenomatous surface, and hence there is great danger of cutting too deeply in places. The wire-loop has been given up on all sides. The writer emphasizes the idea that the operation for removal of adenoids is by no means a simple or an easy one. Its performance requires considerable knowledge, experience, and skill, and is best carried out under complete anesthesia with ether. The patient should remain in bed for twenty-four hours after the operation to avoid "catching cold."

THERAPEUTIC NOTES.

The Treatment of Gonorrheal Infection of Joints and Tendons.—NASSE (*Centralbl. für Krank. Harn-und Sexual-Organe*, September, 1898) has had an extensive experience in the treatment of gonorrheal infection of joints and tendon-sheaths. He recommends rest with compression, to be followed by a stiff bandage—either starch or plaster of Paris. Puncture of the capsule, with irrigation, is only to be adopted in chronic cases marked by recurrences. Fixation must not be too long-continued. It should be followed by passive motion and massage. Hot bathing is also helpful, and injections of iodoform may be used. In very bad cases arthrotomy has to be considered. The writer places no reliance upon internal medical treatment.

Partial Blindness Following the Administration of Potassium Bromid and Passion Flower.—HARNSBERGER (*Vir. Med. Semi-monthly*, October 7, 1898) had occasion to prescribe the following mixture to two patients:

℞	Potassium bromid	ʒ j
	Fl. ex. Passion flower . . .	ʒ ivss
	Water	q. s. ad. ʒ iv.

M. Sig. One teaspoonful four times a day, last dose at bedtime.

One was an anemic girl troubled with faintness and tenderness of the right ovary and the other one was a robust laborer whose attack of faintness and cardiac palpitation was brought on by the excessive use of tobacco and indiscretions in diet. The same preparations from which these prescriptions were compounded were used in prescriptions ordered for several other persons without

any unpleasant result following; but the two patients above referred to became dizzy and partially blind some hours after taking the medicine. The blindness disappeared a couple of days after the medicine had been discontinued.

Recovery from a Large Dose of Hydrocyanic Acid. — KOLIPINSKI (*Maryland Med. Jour.*, October 22, 1898) reports a case of recovery from hydrocyanic-acid poisoning. A man, aged forty-two, neurotic, and melancholic, took prussic acid with suicidal intent. Twenty minutes later he was found lying on his bed presenting the following symptoms:

Face flushed; eyelids half open; eyeballs slowly rolling; pupils dilated; pulse accelerated; deep coma; deep, rapid, peculiar breathing, with sobbing inspiration. The breathing was like that in the coma of diabetes or grave cerebral appoplexy, and can be noticed experimentally in a dog after a lethal dose of potassium cyanid.

There had been involuntary urination and defecation. The tongue was swollen and purplish. The breath had a heavy metallic odor, like potassium cyanid.

The patient was given a subcutaneous injection of $\frac{1}{40}$ of a grain of sulphate of atrophin, 10 grains of citrate of caffein by enema, and 4 or 5 enemata containing each a teaspoonful of aqua ammonia in half a cup of water. Later, when the patient was somewhat aroused he was given aromatic spirits of ammonia by the mouth. Consciousness returned in two hours. During his revival the pupils were contracted, there was very rapid breathing, with dyspnea upon the slightest effort, as whenever he tried to talk or swallow. He had ten or twelve evacuations in the next few hours, but in twelve hours from the time the poison was taken his condition was the same as before it had been swallowed. There were no after-effects, except, for a few days, dysenteric stools without blood, the result of ammonia injections.

The quantity of poison swallowed was one-half ounce of the official acidum hydrocyanicum dilutum, U. S. P., containing two per cent., or 4.8 grains of anhydrous acid.

Treatment of Neuralgia and Headache with an Ether Spray.—HAMM (*Therap. Monatshefte*, October, 1898) has revived an old method of treatment, the ether spray, and applied it to the relief of headaches and neuralgia with good results. The apparatus is one which can be had at any drug-store, and the expense is slight. He has treated a large number of patients in this manner and has found the method to fail in only a single instance. Usually one application is sufficient to effect a cure. The ether is sprayed upon the most painful part until there shows a thin white layer of frost. The pain is relieved at once and usually does not recur. In mild cases it is not necessary to freeze the skin.

Bicarbonate of Soda as a Dressing for Suppurating Wounds.—AUGE and CASTERET (*La Presse Med.*, September 24, 1898) say that bicarbonate of soda used in a two-per-cent. solution is an excellent treatment for suppurating wounds. They have used it in some sixty cases with great satisfaction. The solution is not bactericidal but it acts in a wound as an antiseptic, probably because its alkalinity preserves the tissues and puts them and the blood in the best condition to overcome the germs. Moreover, the healing of a wound according to Preobrajenski is not exclusively due to the destruction of germs. It depends upon the capillary circulation in the wound. If the liquids in the wounded area pass from within the body outward they carry off toxins; if they pass from without inward general infection follows. This view has been proven by a number of experiments. Bicarbonate of soda by dissolving the fatty matter of the skin stimulates the secretions through all of its pores while keeping all the tissues in a vital condition. It is in a certain sense, therefore, a physiologic dressing.

A Malted Food for Nursing Infants suffering from gastro-intestinal disturbances with symptoms of acid intoxication is recommended by KELLER of Breslau. Its usefulness is due to the fact that it is rich in alkalin substances and that it substitutes hydrocarbons for an excess of casein and fats. It is prepared as follows:

A. Mix 1½ oz. of wheat flour in ⅓ quart of milk and strain.

B. Put 3 oz. of malt extract in ⅔-quart of water at 122 F., and add 2½ dr. of a 11-per-cent. solution of potassium carbonate.

Mix A. with B. and boil. Use in full strength or diluted with water according to the age of the infant, whose general condition is said to improve rapidly under this treatment.

Facial Paralysis Cured by Salicylate of Soda.—CATRIN (*La Presse Med.*, October 8, 1898) mentions a case of paralysis of the seventh cerebral nerve. The patient presented the following symptoms: Paralysis of the muscles of the face, diminution of the salivary secretion, disturbances of hearing and taste, and deviation of the eye downward when attempts were made to close it. Thinking that the trouble was of a rheumatic origin Catrin put his patient upon salicylate of soda, 30 grains per day, and this dose was gradually increased until 60 grains per day were taken. This was continued for two weeks and then was gradually diminished. Altogether the patient took the drug three weeks. On the sixth day of treatment sensation begun to return. In two weeks the patient could completely close his eyes and all disturbances of sensation were at an end. In three weeks there was no longer any trace of the trouble.

For Blepharitis Marginalis.—Formaldehyd, at first in one per cent., later in two-per-cent. solution, is recommended for daily application in the following manner: The eyelid is raised and its margin rubbed gently with a small cotton tampon wet with the solution, care being taken that none enters the eye. This process is continued with clean tampons until all the crusts are removed. Finally, a little pure oil is applied. A cure is generally effected, even in severe cases, within one month.—*Moulton.*

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A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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Address the Editor: J. RIDDLE GOFFE, M.D.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK.

Subscription Price, including postage in U. S. and Canada.

PER ANNUM IN ADVANCE	$4.00
SINGLE COPIES	.10
WITH THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, PER ANNUM	7.50

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LEA BROTHERS & CO.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK,
AND NOS. 706, 708 & 710 SANSOM ST., PHILADELPHIA.

SATURDAY, DECEMBER 10, 1898.

STREET CLEANING AND HEALTH.

NEW YORK has had her first experience of the winter under the new régime in the removal, or rather non-removal, of snow from the streets; it has been far from satisfactory to the citizens or commendable to the régime. So large a snow fall was unexpectedly early in the season but that fact hardly justifies the utter lack of anything like systematic effort for the immediate removal of the accumulation. Others have said how important to New York in a commercial sense and how much absolute loss of money to business men there is in the continuance of snow-blocked streets. The first consideration, however, must be the health and lives of the people. To the thousands of citizens who daily tread the streets of New York the persistence for days and weeks of slushy street crossings and monumental piles of mingled filth and snow is a constant menace to life and health. The doctors of the city in their private and dispensary practice have seen the effect of this state of affairs in an increase of respiratory troubles of all kinds. Any amount of money that will secure the prompt removal of snow and the avoidance of slush and mud will be well and profitably spent for the health of the citizens. One thing remains to be insisted upon and that is the supreme right of the pedestrian, which is likely to be lost sight of in the care for business facilities and the insistent interests of large corporations; therefore, street crossings should be the first thing to engage the attention of the Street Cleaning Department and a determined effort made to keep them in passable condition. This would undoubtedly secure the greatest good for the greatest number.

ANOTHER CHRISTIAN-SCIENCE MANSLAUGHTER.

THE death from diphtheria of a sixteen-year-old girl who had had only Christian-Science treatment, or rather lack of treatment, is announced this week at New Britain, Conn. An English coroner's jury under similar circumstances has brought in a verdict of manslaughter. The crime is just as great on this side of the water, and no false motives of consideration for the foolish parents should prevent the bringing of the guilty parties not only to justice, but before the bar of public opinion. No stigma is too black to attach to those who allow superstition, *i.e.*, the imposition of their own foolish faith, to carry them into an invasion of the sacred rights of human life. Diphtheria, especially, has become in these later years one of the most tractable of human ailments and for it, more almost than for any other disease, can the physician "work wonders" by the methods that modern scientific medicine has put into his hands. The crime in the case is made all the more black by this consideration. Let us hope that a well-deserved punishment will be meted out in this instance, as a warning to the thousands of others who have allowed themselves to be senselessly carried away by the foolish nonsense of what has been well called Unchristian Nescience.

PATENT-MEDICINE TESTIMONIALS FOR SALE.

THE following from *Printer's Ink* seems to need no comment. It is dated at Chicago, and addressed to the manufacturers of a certain remedy who are well known for successful advertising:

GENTLEMEN: I have seen your add in Chicago daily papers, and would be glad to know if you could use one or two prominent citizen's testimonials and photos as to merits of your remedy.

Say a senator, judge, representative, or county official whose face and testimonials are valuable. I furnished three photos and testimonials to a big patent-medicine company, and think I can handle three or four more. If you can use any of them, and are willing to *pay for them* (italics ours), I would be glad to furnish same. An early reply will oblige. Yours very truly.

We miss the prominent clergyman and the college professor from the above list of honor. Are their photos and testimonials too valuable to be quoted thus in the open market, requiring special and personal negotiations to secure them, or have they become more or less literally such a drug on the market that they are now hawked about in batches, and are no longer considered worthy of anything but passing attention from the gilt-edged advertising agent?

PROFESSOR KOCH AND QUININ IN MALARIA.

The following anecdote in connection with Professor Koch is told by an Italian medical journal. He was in Rome for the purpose of studying malaria, and going through the wards of the Santo Spirito Hospital one morning he noticed a patient seemingly in the last stages of collapse from pernicious malaria. He remarked that he would like to be present at the autopsy next morning and hoped to secure from the spleen some interesting specimens of the estivo-autumnal type of the malarial parasite. Judge of his surprise next morning to have the patient greet him from a distance as he entered the wards. He demanded how the miracle had been done and was told that they attributed it in the hospital to intravenous injections of quinin after Professor Bacelli's method. It is not told what Professor Koch then said. Considering the circumstances his remarks would at least be interesting to the medical world. The story seems almost too timely and apt to be entirely true, but as the Italians themselves say: "Se non é vero é ben trovato," if not true it is a most happy invention. It also indicates how firmly the Italians believe in the use of quinin in all forms of malaria, despite the recent protests against its use by people who have but little practical experience with it.

THE TOXIN THERAPY AND MALIGNANT DISEASE.

Two recent communications show that this interesting chapter in surgical therapeutics, the effect of toxins upon sarcomatous growths, is not yet closed. Mr. Battle presented before the Medical Society of London (*Lancet*, November 19, 1898) a man who had been treated with Coley's fluid for inoperable sarcomatous growths of the shoulder. Microscopic examination of excised sections showed that the growth was composed of spindle-cells and large cells. After three-months' treatment no trace of the tumor was left. Mr. Mansell Moullin, commenting on the case, congratulated Mr. Battle on having shown the first authentic case in England of dispersion of tumor by Coley's fluid. He himself had had three cases, but under such circumstances that the diagnosis could not be confirmed by the microscope. In the case under discussion, however, he had seen the tumor and the secondary growths. He had also examined the microscopic sections, and he could not conceive that the tumor was anything but a sarcoma.

Dr. Maurice H. Richardson, surgeon to the Massachusetts General Hospital, reports in the December number of the *Annals of Surgery* the details of a striking experience with ordinary severe wound infection, causing the disappearance of a tumor which microscopic investigation had shown to be infiltrating round-cell sarcoma. The tumor had infiltrated the tissues so widely in the scapular and axillary regions that operation begun for its removal had to be discontinued. Extensive and severe infection of the operation wounds followed, and to the surprise of all who had seen the tumor and knew the microscopic diagnosis, the tumor disappeared during the suppurative process, and did not return.

The attitude of the surgeon toward so-called cures by any but surgical means of malignant disease is very naturally one of incredulity, but even a proper conservatism has its limits, and to put aside cases like these without further effort is to impugn wantonly the clinical judgment of thoroughly conservative surgeons and assume error of diagnosis on the part of capable pathologists. The outcome of further observations along this line must in any case be of benefit to scientific medicine, for if they do not finally furnish us with an effective therapeutic aid, they will, at least, have proved of service to higher medical criticism by supplying us with crucial tests of surgical and microscopic diagnosis.

AMERICAN SURGERY AND THE GASSERIAN GANGLION.

THE surgery of the Gasserian ganglion is peculiarly American. We say it with not a little pride, for it promises to have a definite place in the surgical treatment of that awful malady, facial neuralgia, in its most obstinate forms. The demonstration of the feasibility of the removal of the entire ganglion and the elaboration of the operative technic we owe entirely to American surgeons. A distinctly new advance in the relief of the most racking pain that human nature can be called upon to endure is the result of their efforts.

Slowly the realization of this fact percolates through the hardened strata of solid glacial conservatism that separates us from our Continental European brethren. Our English cousins have not been so slow to recognize the value of the procedure and one of them, at least, has been in at the making of a new chapter in surgery. In Germany, with notable exception of Krause of Altona and Kocher of Berne, the surgeons have paid very little attention to it. France has taken to it more kindly, but a perusal of the proceedings of the last French Surgical Congress, with the discussion of the treatment of facial neuralgia and incidentally of the resection of the Gasserian ganglion, will convey the same impression as would a corresponding discussion in our own country some five years ago. At that time all was tentative; nothing was definitely settled as to operative technic, post-operative complications, final results, or even the question of the justifiableness of the operation.

We note the fact to congratulate American surgeons on it. We are not far from a new century in which we feel sure that distinctly American advances in medicine and surgery will not be so rare as to be deemed worthy of special congratulation.

VASCULAR HYPOPLASIA, OR LYMPHATIC DIATHESIS?

A YOUNG man twenty-three years of age, during a reasonably quiet boxing-contest in England, died after a blow, not over the heart but some distance from it, and not delivered with special energy. The only suggestive post-mortem finding in the case was an extremely small heart. This brings up the interesting question as to what is to be considered the cause of death in such cases.

Years ago Professor Virchow described certain cases of fatal chlorosis in which the whole vascular system was hypoplastic, and as the development of this is due to the reduced pressure exerted upon it by the amount of blood in the organism, it seemed clear that the blood-making organs were primarily deficient, thus accounting for the persistent chlorosis. It was noted that these subjects with persistent chlorosis were peculiarly irresistive to intercurrent disease, that the acute infections carried them off easily, that they did not stand trauma well, that they were especially liable to succumb to the shock of surgical operations, and formed a notable proportion of those who died from an anesthetic. Later, the elder Professor Paltauf, from his immense material in the Medico-Legal Department of the General Hospital at Vienna, selected a series of cases resembling these, but not always presenting post-mortem this hypoplastic condition. They were young persons, usually under twenty-five years of age, upon whom autopsies were performed because of sudden death. This had occurred either in the course of an acute infectious disease, such as pneumonia, typhoid fever, or influenza, or more suddenly from some slight shock, as diving into cold water, a slight blow, especially under excitement, a slight accident if accompanied by fright, and, finally, insignificant surgical procedures and anesthesia. In a large number of these subjects, some with and some without the vascular hypoplasia described by Virchow, he found hypertrophy of all lymphatic structures: usually, an external lymphatic polyadenomatous condition, nearly always, enlarged tonsils and hypertrophy of follicles at the base of the tongue, and invariably enlargement and multiplication hyperplasia of the follicles of the intestine and enlarged mesenteric glands. He called this condition the lymphatic diathesis, and the Vienna school attribute most of the otherwise inexplicable sudden deaths to it. We understand that a distinguished pathologist in Vienna even attributes the death of Langerhaus' child in Berlin to this lymphatic constitution. Our readers will doubtless remember this as the case in which the child of an assistant of Professor Virchow died immediately after the injection of diphtheria serum, given as an

immunizer, the child not having diphtheria, but only having been exposed to contagion. While they are not in the least of the opinion in Berlin that the antitoxin was the cause of the death, they smile very knowingly at the diagnosis *in distans* of the Vienna school.

Meantime, the medical world is divided as to whether the Berlin or Vienna explanation of these sudden deaths is to be accepted. They are not so different from one another but that one might accept both, for they are mutually exclusive. It is evident, however, how important for the final solution of this question is the careful observation of each little detail of clinical history, and, if possible, the post-mortem findings of these patients who die young and without what would seem adequate cause. Even during life the evidence of the existence of the lymphatic diathesis or of hypoplasia of the vascular system, is not so obscure but that the careful physician should be able to detect them, and by the institution of proper prophylactic measures and the avoidance of the slight shocks so fatal in these cases materially lengthen patients' lives. For anesthetists it is of the utmost importance that they should learn to recognize the symptoms of these conditions. The careful investigation of the condition of all patients about to be anesthetized with special reference to the existence of these conditions would, undoubtedly, do more to improve the anesthesia mortality statistics than any of the many vaunted methods of safe anesthesia or any mixture of special anesthetics.

THE "LANCET" AND THE COLOR OF NEWLY BORN NEGRO CHILDREN.

THE London *Lancet* is in a quandary. A French physician, Dr. Farabery, made the assertion some time ago after some slight experience with Africans on exhibition in Paris that negro babies up to the age of seven days are similar in every respect to white babies. This was published in *Pædiatrics* in this country and was denied. Those who denied the statement, however, did not themselves agree as to what the color of a newly born negro boy is. An Alabama medical man says negro babies are black from the very beginning, a Missourian says they are sallow or creamy-white, hence, the *Lancet's* dilemma. The American doctors, from their greater experience ought to know more about the matter than Dr. Farabery, but then they do not agree. The editor suggests that practitioners in the English colonies in South Africa be asked to decide the question, but there need surely be no necessity for going so far. Since our English contemporary takes it so seriously will not some one with a newly-born piccaninny or two on hand tell us the exact color of the precious treasures and so settle an important medico-anthropologic question?

ECHOES AND NEWS.

Death from Football Injuries.—A member of the football eleven of Ohio University died recently from injuries received two weeks previously while playing the game.

Rush Medical College.—Dr. Sanger Brown has resigned his position as Professor of Mental and Nervous Diseases in the faculty of Rush Medical College, Chicago.

The Presidency of the New York Academy of Medicine.—The nominees for president of the Academy of Medicine to be voted for at the next meeting are Drs. Wm. H. Thomson and Egbert H. Grandin.

Bubonic Plague in Madagascar.—The Minister of the Colonies announces that a plague has broken out in Madagascar, and that the situation presents an exceedingly grave aspect. The disease is distinctly of the bubonic type.

The O'Dwyer Scholarship.—The trustees of Columbia University have established in the College of Physicians and Surgeons a scholarship to be known as the O'Dwyer Scholarship, in recognition of Dr. Joseph O'Dwyer's professional labors.

A Medical College Burned.—The Medical College of Indiana, a four-story brick building in Indianapolis, has been almost completely destroyed. The loss is estimated at $30,000. Dr. Shobe, who slept in the building, was so badly burned that he cannot live.

The Prognosis in Alopecia.—A dermatologist began a paper on alopecia as follows: "Faith is usually pictured as a maiden clinging convulsively to the rock of ages. I think a more impressive representation would be that of a bald-headed patient rubbing vigorously into his scalp the remedy prescribed by the bald-headed specialist in skin diseases."

Bodies of the Santiago Dead.—The War Department has decided to adopt, at once, the suggestion of General Wood, in command at Santiago, that the removal of the bodies of American soldiers from that section of Cuba be deferred until February at the earliest. This is a sanitary precaution which, it is felt, must outweigh other considerations.

Dr. Huidekoper Appointed Chief Sanitary Officer at Havana.—It is reliably reported from Washington that Dr.

Rush Huidekoper has been selected by President McKinley to fill the position of chief sanitary officer at Havana. It will be his duty to put into effect the suggestions of the late Colonel Waring. The President has authorized the expenditure of $50,000 for this purpose.

Ft. Monroe's Military Hospital.—Ft. Monroe will soon be one of the most important military hospital stations in the country. The hospital is named the Josiah Simpson Hospital, and has during the past four months accommodated 1500 sick and wounded soldiers, of whom about 500 still remain. It is now proposed to increase the capacity of the hospital to 2500 beds by the erection of five additional buildings.

Bequests of Edward Austin.—The late Edward Austin of Boston left nearly $1,000,000 for educational purposes. Of this Harvard is to have $500,000, the Massachusetts Institute of Technology $400,000, and Radcliffe College $30,000. The income of these large bequests is to be used for scholarships, not professorships. The sum of $10,000 is given to the Bacteriological Laboratory of the Harvard Medical School.

Which Was First, Mind or Medicine?—This question is taken from "Science and Health," the book written by Mrs. Eddy, the "Mother" of the Christian Science Church. There is really no one who can truthfully answer this question. Perhaps Mrs. Eddy knows the answer, but she doesn't give it in her book. At all events, it *is* quite immaterial which was first. Upon such quibbles as this does the Christian Scientist rest her faith.

Health Conditions at Manila.—The following report by General Otis shows a decided improvement in the health of the troops in the Philippines: "November deaths 26 as against 45 for October. Sick-rate in command about the same as among troops of other governments serving in tropical countries. One third of present sick suffering from typhoid and malarial fevers, one-sixth from intestinal troubles, and the remaining half from ailments slight in character."

Colonel Roosevelt on Medical Affairs at Santiago.—Colonel Roosevelt testified before the War Inquiry Commission that the medical supplies at Siboney were "entirely insufficient;" there were not enough doctors, and the condition of the wounded was "appalling during and immediately after the fighting." The privations as regards medical supplies and food were greater than it was necessary to have them, "the system which procured inexperienced officers" being responsible.

Health in the Philippines.—Professor Dean C. Worcester, in his book on "The Philippines," states that the climate in these islands is especially severe on women and children, and doubts if many successive generations of European or American children could be reared there. Malaria and diseases of digestion, smallpox and cholera (the last uncontrollable when it once begins) are to be found; leprosy and beri-beri occur, but are not common. The bubonic plague has not as yet gained a foothold.

Meeting of the American Physiological Society.—The American Physiological Society will hold its Eleventh Annual Meeting in New York on Wednesday, Thursday, and Friday, December 28, 29, and 30, 1898. The first day's session will be held at the College of Physicians and Surgeons; the second day's session at Schermerhorn Hall, Columbia University, this session partly in conjunction with the American Psychological Association; the third day's session at the University and Bellevue Hospital Medical College.

Resolutions upon the Death of Dr. Page.—At a regular meeting of the Northwestern Medical and Surgical Society of New York, held November 16, 1898, resolutions were adopted expressive of the esteem and high estimation in which Dr. Richard Channing Moore Page was held by the members of the Society, and of their appreciation of his great medical and literary ability, combined with an indescribable charm of manner which had endeared him to them all. It was resolved that in his death the Society had suffered an irreparable loss.

Breakfast in Cuba.—According to the *American Kitchen Magazine*, at the breakfast of the well-to-do families there stands at every plate a bottle of red Bordeaux or Catalonian wine, which is drunk as freely as water. The food is usually abundant and nourishing. After breakfast and not with it, coffee is served. At breakfast they have the inevitable honey and fruit and eggs, the last being cooked in styles about the same as in the States. In addition, a favorite dish is a small tenderloin steak served with sliced fried potatoes.

The Manhattan Eye and Ear Hospital.—At this hospital during the last year 19,435 patients who made 88,485 visits were treated at the clinics. In the eye department 12,995 were treated, in the ear department 3366, in the throat department 3073, and in the wards 1425, who received 17,863 days' board, of which 6836 were free; 2632 children were treated at the clinics. Treatment was refused to 1579 patients as they acknowledged their ability to pay for medical advice. More than 27,000 prescriptions were dispensed during the year.

Physicians for School Teachers.—The Board of Education of New York City has appointed for the whole city of New York, nineteen physicians (among whom is one woman), whose duties it will be to examine teachers, who are required to present certificates of sound health before they are allowed to teach. Heretofore the teachers had to pay the physician's fee for examination; hereafter, however, the applicant may consult any one of the appointed physicians free of charge and the Board of Education will pay $3 for each examination.

The New York Lying-in Hospital.—The one hundredth annual report of the Society of the Lying-in Hospital has just been issued. It is stated that out of the 51,117 births reported by the Board of Health for the year ending October 1, 1898, in the borough of Manhattan, 23,892 unfortunate mothers were dependent on the care of ignorant midwives, and only 27,225 treated by physicians

in practice. These include all charity patients, and out of that number more than nine per cent., were cared for and nursed by the Society of the Lying-in Hospital.

Life Insurance a Century Ago.—"Sir Mark Sykes offered to pay any one who would give him a hundred guineas down, a guinea a day as long as Napoleon I. lived. The offer was taken by a clergyman present, and for three years Sir Mark paid him 365 guineas per annum. He then thought he had thrown away enough money, and disputed further payment. The recipient, who was not at all disposed to lose his comfortable annuity, brought an action, which, after lengthy litigation, was decided in favor of the baronet."—John Ashton, "History of Gambling in England."

Historical Papers Given to the University of Pennsylvania.—Dr. S. Weir Mitchell, the novelist and historian, has presented to the library of the University of Pennsylvania the original provincial letters of authority to Provost William Smith to collect funds for the College and Academy of Philadelphia, now the University of Pennsyivania, and to John Jay, to collect funds for the College of the Province of New York, now Columbia University. The authority to John Jay is dated March 13, 1762, and bears the signatures of the Archbishops of Canterbury and York, and the Lord Bishop of Winchester.

The Abraham Jacobi Hospital Ward for Children.—A gift of $50,000 for the endowment of a children's ward in Roosevelt Hospital, to be known as "The Abraham Jacobi Ward for Children," is announced. The beds of this ward will be free to all sick children except those suffering from contagious diseases. The object of this gift is to provide clinical instruction for medical students. It is very appropriate that this honor and opportunity for more thorough clinical instruction in diseases of children should be conferred upon Dr. Jacobi, who, by his teaching and his insistent advocacy of the importance of special clinical instruction in pediatrics, has gained deserved recognition for his specialty.

Atropin for Morphin.—The unpardonable mistake of using atropin instead of morphin in filling a prescription for the latter has recently occurred in a New York drug-store. Fortunately, only one dose was taken by the patient, and although the symptoms were most alarming, a fatal issue was avoided. The clerk who compounded the prescription was promptly discharged. The exhaustion due to the unlimited hours during which drug-clerks have been compelled to work has formerly afforded some mitigation of the censure provoked by such mistakes. The reasonable hours of duty prescribed by the concerted action of the New-York druggists, however, no longer permits of this condonement.

Was this a Death from Hydrophobia?—August Bombiadi, aged five, died last week at the home of his parents, Astoria, L. I. He is said to have been bitten by a dog several months before. His injuries were not attended to and though he is said to have suffered comparatively little, spasms were frequent toward the end.—[All deaths after the bite of animals are of marked medical interest owing to the dubious position that many members of the profession in America take with regard to the existence of hydrophobia in this country. Any details of suspicious deaths under such circumstances will be gladly welcomed by us and will be of great service to American medicine in helping to throw light on an important subject.—EDITOR.]

Seeming and "Real"ity.—The *Revista Medica* is a Portuguese medical journal published at Sao Paulo in Brazil. A first glance at the price demanded for subscription might lead one to think that at least there was one place in this cold, cold world where the medical editors' efforts were appreciated at something like their true worth. Subscription for a year costs 10$000 rs; a single number is worth 1$500 rs. But alack and alas it is only seeming and the subscription price, 10 reals, is about the ordinary amount charged for a monthly journal in this country. What a paradise for the advertising manager would be Brazil if the price announced for a page of matter 40$000.rs. had any actual comparison to its seeming in our unfamiliar foreign eyes.

An Infirmary for Students at Harvard.—For some time the building of an infirmary at Harvard University for sick students has been under consideration. The immediate accomplishment of this very laudable purpose is now made possible by a gift of $50,000 from Mr. James Stilleman of New York. The infirmary is to be named after the donor, who also agrees to contribute $2500 a year for four years toward its support. This is, we believe, the first infirmary for sick students to be erected at any of the large universities. It fills a long-felt want, for the possibility of being sick in lodgings has been the nightmare of many a delicate student and no little source of anxiety to his friends. Harvard is to be congratulated on being a pioneer in this as in so many other things that tend to make student life more livable.

One Hundred Average English Boys.—An eminent English physician has made physical examinations of a number of English schoolboys, the sons of well-to-do parents; their ages were between thirteen and fifteen. They were supposed to be typically healthy lads. "Minor imperfections," such as stammering, a tendency to chilblains, defective teeth, and many other failings were not considered. Among the first one hundred 39 were below the average in height and 53 below the average in weight, 68 were below the average in chest measurement, 63 were the subjects of "deformities," such as lateral curvature, pigeon-breast, knock-knee, and flat-foot, 20 had defective sight, 9 had defective hearing, 1 an "abnormal growth," 1 was color-blind, 2 had "heart disease," 2 had hernias, and in the urine of 22 albumin was found.

Malaria, an Announcement.—Many of the troops that suffered severely from malaria in the South and in Cuba have been mustered out. A widespread interest throughout the country on the subject of malaria, and especially its latest differentiated form, the estivo-autumnal fever, has been aroused by the epidemic. A very practical as-

pect of the question is that some of these men will come under treatment for relapses and complications on the part of their home physicians. We are glad to announce then, that we will publish next week Dr. W. H. Thomson's article on the treatment of Cuban malarial-fever, and Dr. Watkins' microscopic specimens of the estivo-autumnal parasite. There will be besides, an editorial review of the subject of nephritis after malaria, and a special article on quinin in the treatment of malaria, especially of the estivo-autumnal type.

Christian-Science Graduates, Announcement Extraordinary.—In the light of recent events we think that the following announcement, which was officially given to the press, may be awarded the palm for consummate self-sufficiency: "Mrs. Mary Baker Eddy, discoverer and founder of the Christian Science, has just completed the examination (*sic*) of a class of about seventy! of the active workers in Christian-Science mind healing, to confer upon them the degrees of the Massachusetts Metaphysical College, as healers and teachers of this system of medicine (shades of Hippocrates!), whose only crowned head is divine sovereignty, whose only priest is spiritualized man" (mainly of the feminine gender). There was a time when we looked to Massachusetts as a model State government in which the regulation of abuses was the care of the enlightened citizens, but that time is no more, it seems. *Quantum mutatus ab illo!*

Enterprising Medical Journalism.—Another new journal has come to us from out of the West. It is enterprising, of course; every journal is which emanates from that resourceful region. A superior advantage claimed for it over its contemporaries is one by which the contributor, for the purpose of elucidating his text, may have his article embellished by his photograph. Only a person absolutely without the esthetic temperament would not be lost in admiration of one of these photographs. The subject scorns the photographer's stereotyped request, "Now smile, please;" instead, through his pellucid orbs, his soul seeks inspiration in the empyrean. It is evident that on the instant of the camera's click the gentleman had in mind Goethe's appeal for "light, more light." It is pleasing to record that this gentleman was not disappointed; light did come to him—in the form of a paper on the use of "Unguentum Hydrargyrum in Syphilis," which accompanies the photograph.

Professor Nothnagel Again.—Professor Nothnagel, the distinguished director of the First Medical Clinic at the General Hospital at Vienna has been once more the subject of uncalled-for newspaper comment. A good deal of unenviable notoriety was forced upon him some time ago by the connection of his name with the outbreak of plague in Vienna, for which he was, as we have explained in these columns, in no sense responsible. This time it is the medical press that is at fault and he has had the pleasure, for such must be the feeling produced, of reading his own obituary in several of the French medical journals. Needless to say it was extremely complimentary; it could scarcely be anything else, for it is generally acknowledged that Professor Nothnagel deservedly occupies one of the highest positions in European clinical medicine. We are happy to be able to state, however, that he is not only not dead but he is hale and hearty for his sixty-six years, enjoying excellent health, and gives promise of continuing his valuable contributions to contemporary medical science for many years to come.

"Hysterical Affections of the Eye" Before the New York Academy of Medicine.—The Section on Ophthalmology and Otology furnished the scientific program at the regular meeting of the New York Academy on December 1, 1898. By special invitation of the chairman of this section, Dr. B. Sachs of the Neurological Section was asked to furnish the paper of the evening upon "Hysterical Affections of the Eye." In an exhaustive article, presenting a review of the bibliography of the subject since 1873, the author devoted himself to the hysterical palsies of the external ocular muscles in contradistinction to the loss of balance among them that gives rise to the several phorias and squints, so interesting to oculists, and to hysterical amblyopia. Except in so far as the loss of power over the recti disturbs binocular vision, hysterical paralysis in them was not shown to differ essentially from the same form of paralysis in other motor regions. Clinical proofs of the existence of these paretic conditions are not wanting, although the diagnosis must often be reached by a process of exclusion. It is well, however, to remember that mental suggestion occupies an important place in their production and presents the key to their successful treatment. Passing to the second part of his subject the writer emphasized the difficulties encountered in the study of affections of the special senses since the observer now finds himself more or less exclusively within the realm of subjective phenomena. The almost endless variations in form and degree of hysterical amblyopia and its not infrequent association with such symptoms as photophobia, ocular tenderness, and even disturbances of circulation, as witnessed by the ophthalmoscope, have led trained clinicians far astray. So frequently has some limitation of the field of vision coexisted with hysteria that its presence has come to be regarded as almost pathognomonic of the latter. As a rule it is symmetrically and peripherally disposed in the two eyes and corresponds in degree, the fields of color perception contracting according to what might be termed the usual formula. The writer had never observed an example of complete central scotoma of hysterical origin. Throughout this entire consideration of the topic the author kept well before his audience his unwillingness to believe in the localization of the malady as manifested by the functional incapacity and expressed his conviction that the cerebral centers at least, if not the higher cortical areas, were mainly at fault.

Dr. H. D. Noyes, in discussion, reported three cases of extreme interest and pointed out in them the important factor played by suggestion in both a causative as well as a curative relation. In answer to a question raised in the paper he asserted that he had seen more than one patient with central hysterical scotoma. Besides the difference in ophthalmo-

copic appearances the tenderness in retrobulbar neuritis is best elicited by pressing the globe as a whole back upon the inflamed nerve, while the ocular tenderness of hysteria is manifested by lightly palpating the globe itself. Dr. C. L. Dana had attended the meeting with the impression that he would find it necessary to defend the large degree of skepticism with which he regarded the highly intangible subject of hysterical paralysis, but he was happy to find the paper so conservative in the views expressed that little was left him for attack. He reminded his hearers of our all but complete lack of knowledge as to the essential nature of hysteria and of the phenomena arising therefrom. He had come to consider hysteria as a psychologic disturbance, if not a true psychosis. In the charts exhibited by Dr. Noyes recording the limitations in the visual fields, he observed that they were shown to be exactly symmetrical in the two eyes. Quite the opposite had been the result of carefully conducted observations made by himself. Dr. Herman Knapp spoke of our want of positive acquaintance with hysteria and asked how it was possible to interpret its resulting symptoms while laboring under such ignorance. The elusive nature of the whole question under consideration reminded him of a Homeric figure by which the unsubstantial was likened to the shadow of smoke. In practice it was quite common, especially among the young, to find ocular affections which are catalogued under the term hysterical, and after convincing himself of the non-existence of a local lesion it was his habit to treat these patients very cavalierly. The fears of the parents and friends were first allayed, after which the condition was in a great degree disregarded.

CORRESPONDENCE.

THE DIFFICULTIES OF ORGANIZING A VOLUNTEER ARMY.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—To the exposure of abuses in recent army management there can be no valid objection. But criticism is a thousand fold easier than performance; and it is far-fetched to expect no mistakes in either appointments or administration in the sudden raising of a raw army. It readily occurs to any one who has had several years experience with volunteer forces that this cannot be done without considerable losses from sickness.

The best man on earth and the smartest angels in Heaven as Secretary of War and heads of army departments could not do it for various reasons, among which are: (1) In spite of medical examinations, a certain percentage of raw men will always be found to lack the physical and moral stamina to endure any hardship. (2) A radical change from home to camp-life will always cause a good deal of sickness. (3) A change from a temperate to a semitropical or tropical climate, especially in summer, is always unhealthy. (4) The proverbial recklessness of youth, in regard to diet and all other habits, always worse under the excitement of the gathering with a multitude, and of the commencement of a war. (5) Nine men out of ten, among newly enlisted volunteers, will pay very little attention, for the first few months, to any orders in regard to camp hygiene. They consider such orders as simply so much "style," "red tape," or "poppycock," and simply ignore them. If a few individuals only did this they could be disciplined, but not readily when nearly all do so. Closely connected with this, and largely the cause of it, is: (6) The considerable proportion of field and line officers elected by popular vote of the volunteers or appointed by State authority who are ignorant, idle, or reckless, or all together, and totally unfit to care for men. Nothing is more common than to see some companies in a regiment, or some regiments in a division, with twice or three times the sickness of other companies or regiments with exactly the same surroundings. Most of these incompetent men can be weeded out in a few months, but not at once. The men will learn to conform to camp hygiene, but not until their own bitter experience has taught them its necessity, and they have learned the value of strict obedience to all orders. (7) The Santiago campaign, involving exposure in midsummer to a tropical climate under the worst circumstances, must have caused a heavy percentage of sickness with the best possible management.

Making reasonable allowance for these, under the circumstances, largely unavoidable causes of sickness, it is not reasonable to ascribe a large amount of sickness to the neglect or incompetency of any one government officer, or of several of them. The actual statistics of sickness are less than of any other large army ever raised in so short a time. They are very much less than in 1861–5. It may be said that this should be so because hygienic knowledge has much increased since that time. This is true so far as the most enlightened of the people, and a large proportion of the medical profession is concerned; it is not true, to any great extent, of the bulk of our population.

It may also be said that our troops should have less sickness because in their own country in time of peace. This is not so true as it at first appears. The unlimited opportunity to buy all sort of huckster's supplies, many of these bad or stale, and the injudicious sending of dainties from home, had considerable to do with the sickness. The keeping the men in any one camp for months at a time, whoever was responsible for it, was a grave error.

Nothing is gained by any attempt at shielding any mistakes or wrongdoing on the one hand, or by railing accusations on the other. If a large army is again suddenly raised after thirty-three years of peace, there will be a great deal of sickness in it. The only way to even partially avoid this would be for the militia every year or every few years, to be mobilized in considerable force, and kept in camp for some time, so that officers and men learn the actual needs of army life. People will learn by experience, they will not in any other way.

G. H. FULLER, M.D.

DELHI, IOWA, November 30, 1898.

[We gladly give place to this mild remonstrance against too harsh criticism of the War Department in its manage-

ment of the recent war. Exception, however, must be taken to the writer's underlying standard of judgment which plainly worded means that because epidemic diseases have always prevailed in army camps, therefore, they always will and no one is responsible. This is the error that has lain at the bottom of all the difficulty. War is a fiend of destruction, everything is sacrificed with a lavish hand, lives as well as treasure, and because the percentage of deaths from disease is not greater than is borne out by the experience of former wars no blame but only praise is to be ascribed to the management. Must we take no account of the great advance in the knowledge of the etiology of disease and the present advanced position of hygienic and sanitary science? Is it just to compare statistics of a war of aggression against a feeble and bankrupt nation with a great fratricidal conflict in which there was a death grapple for the dearest principle of government?—ED.]

THE COOPERATION OF THE PROFESSION SOLICITED.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—At the last meeting of the American Gynecological Society a committee composed of Drs. Williams of Baltimore, Norris of Philadelphia, Fry of Washington, Reynolds of Boston, and Pryor of New York was appointed to report next May upon the use of antistreptococcic serum in the treatment of puerperal septicemia. We have agreed upon a method of securing the discharges in puerperal cases and upon a standard serum which can readily be procured.

We recommend the use of the serum prepared by the New York City Board of Health. Sterile culture-tubes can be secured from Dr. Torrens, No. 435 Pleasant Avenue, and from Dr. Jeffries, No. 212 East Thirty-fourth Street, New York City. Samples of discharges should be sent to Dr. Jeffries, who will, at the earliest moment, notify by telephone or telegraph the physician attending the case under observation whether streptococci are present or not. In return for this, physicians are requested to furnish some member of the committee with notes of their cases showing at what stage of the disease and in what amounts the serum was used, what general treatment was employed, what local treatment was applied, and the results.

It is desired by the commission to make the report as exhaustive and thorough as possible, and to accomplish the object sought the cooperation of the profession is necessary. We also desire notes of cases in which the serum has not been used. While it is manifestly desirable that one kind of serum be employed in all cases, we will be gratified to receive the results obtained with any which may please the fancy of any particular observer.

In making our report, of course, full credit will be given to each gentleman who favors us with his reports.

Very truly yours,

WM. R. PRYOR, M.D.

NO. 121 EAST THIRTY-EIGHTH STREET,
NEW YORK, November 30, 1898.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

INJECTIONS OF DIPHTHERIA ANTITOXIN FOR SCHOOL CHILDREN—RUSH HOSPITAL FOR CONSUMPTIVES—PERSONAL NOTES—A BILL TO COMPEL INSPECTION OF BODIES BEFORE ISSUING DEATH-CERTIFICATES—DEATH FROM ACETANILID—HEALTH STATISTICS.

PHILADELPHIA, December 6, 1898.

CONSIDERABLE amusement was caused among the profession, and a great deal of unnecessary alarm and worry among the laity, by a newspaper article of last week in which it was stated that public-school children were to be treated with injections of diphtheria antitoxin, the treatment to begin, as a routine practice, next fall. Dr. Charles S. Means, a common councilman of the city, is endeavoring to secure the passage of an ordinance providing that "on and after September 1, 1899, all children in attendance at public schools, shall be immunized for diphtheria by the injection of antitoxin, and further, the Director of Public Safety is directed to instruct the Medical Inspector of the Board of Health to enforce the provisions of this ordinance." Dr. Means was quoted as saying, also, that it is universally conceded by prominent physicians that most persons may be immunized by the injection of antitoxin.

It is by such impracticable suggestions—ignorant is perhaps too severe a word—that the profession is often brought to ridicule. In the first place the cost of the projected scheme would alone be an objection, as immunizing doses of antitoxin, probably in large quantities even, would cost $1.50 to $2 at least. The difficulty of having an injection made by a physician who would not only have to carry an antitoxin syringe, but also a large number of sterile needles or some means of sterilizing one needle after each injection, and the possibility of having abscesses, etc., when so many injections would have to be made in comparative haste, would seem sufficient reason for the abandonment of this scheme. The more important fact, that immunization lasts but four weeks, should prove the utter futility of this measure.

Dr. Means is correct in saying medical men acknowledge the immunizing power of antitoxic serum but he must surely know that all authorities agree that this immunizing period is certainly not longer than a month. Could any one advise a monthly puncture and injection or would any parents permit such measures being carried out? We think not, and it is to be hoped that the matter will sink into the oblivion it deserves until antitoxin immunity can be made to last a year at least, a realization which at present seems far off.

Extensive alterations are to be made to the Rush Hospital for Consumptives, the plans for which have been completed, and the work is to be started at once. The present building, which consists of two parts, one two stories high and the other only one story, is to be made three stories uniformly, which will give necessary room for twenty-eight additional beds.

Dr. Henry A. Saylor, well known in Lehigh County, died last week at his home in Allentown, aged sixty-eight

years. He was very active in politics, and served one term as prothonotary of the county.

The following have been appointed vaccine physicians: Drs. George D. Blomer, Jr., Joseph F. Wallis, Thomas B. Bradley, A. J. Matthews, J. Gilbert Young, J. W. Dubbs, George D. Morton, and George E. Dahis.

Dr. Judson Daland delivered the address before the Harrisburg Academy of Medicine at its third anniversary, and papers are to be read by Drs. W. E. Ashton, H. A. Hare, and John B. Deaver at the eightieth anniversary of the Cumberland County Medical Society of New Jersey.

George F. Edmunds, ex-senator from Vermont, has been elected a member of the Board of Trustees of Jefferson Medical College.

No such law being in effect, it is proposed at the next session of the Legislature to introduce a bill compelling physicians to view bodies and satisfy themselves of death before issuing death-certificates. The reasons given for the necessity of the bill are the prevention of fraud on insurance companies, the prevention of burial during catalepsy, and prevention of crime. It seems hardly necessary to pass such a bill, as any reputable physician who signs a certificate generally knows whether death has occurred and whether it has been natural, and any unscrupulous physician could evade the law under this statute as readily as before it was introduced should he care to. Another measure likely to be introduced is one compelling druggists to label all headache powders or other packages containing coal-tar products, as such. The death of a woman at Pittsburg last week from a headache-powder supposed to contain but 5 grains of acetanilid, has added a new impetus to the movement.

The total number of deaths occurring in Philadelphia for the week ending December 3rd, as reported at the Health Office, was 399, of which 118 occurred in children under five years of age. The total number of new cases of contagious disease was 248, reported as follows: Diphtheria, 114 cases with 35 deaths; scarlet fever, 28 cases with 2 deaths; typhoid fever, 106 cases with 10 deaths.

OUR LONDON LETTER.

[From our Special Correspondent.]

A DISTINCT VARIETY OF HIP-JOINT DISEASE—TRIAL OF THE CHRISTIAN SCIENTISTS IN CONNECTION WITH THE DEATH OF HAROLD FREDERIC—A NEW REMEDY FOR CHRONIC ULCERS.

London, December 1, 1898.

At the meeting of the Medico-Chirurgical Society, held November 22nd, the papers listed for consideration were "A Distinct Variety of Hip-Joint Disease in Children and Young Persons," by Edmund Owen, and "An Improved Method of Treatment of Separation of the Lower Epiphysis of the Femur," by Jonathan Hutchinson, Jr. Following the admirable custom of the London societies, printed abstracts of both papers were placed in the hands of those attending the session, and proof copies of each could be obtained on application at the library. This made the discussion both full and to the point, but had the disadvantage, as at the late meeting of the Gynecological Society, that the second paper was crowded out entirely and its reading postponed to the next meeting. In further contrast to our "eleventh-hour" American methods, papers to be read are in the Secretary's hands months or even a year before they can be reached. It sounded strange to transatlantic ears to hear Mr. Owen, in mentioning the date "last spring" in one of the cases he reported, interject "last spring a year ago, sir; this paper has been here nearly a year!"

The paper was a clear and convincing description of a class of acute suppurative diseases of the hip-joint, quite distinct, and to be carefully separated from tubercular inflammation. The disease is simply an extension of osteomyelitis from the shaft of the femur into the tissues of the epiphysis and epiphyseal line. And as at the hip, unlike any other joint in the body this line is included within the capsular ligament at the joint, the synovia and cartilages become involved. Ordinarily, extension of osteomyelitic inflammation into a joint is extremely rare, but here on account of this curious antatomical arrangement its occurrence is possible and not infrequent. So violent is its action when once it reaches these delicate and actively growing tissues that it is not uncommon in severe or neglected cases to find the epiphysis completely separated from the shaft and the head of the femur lying loose in the acetabulum.

The disease is characterized by sudden, severe pain, rapid rise of temperature, early delirium, and death by septicemia within four or five days, unless the condition is recognized and promptly dealt with. There is often a history of injury or of some systemic disease, both of which probably act by lowering the resisting power of these embryonic tissues and rendering them vulnerable to these infective organisms. It is most liable to be mistaken for acute monarticular rheumatism and usually occurs in children, never after the union of the epiphysis with the shaft in the nineteenth year. The only effective treatment is heroic, opening the joint, removal of the necrosing epiphysis, and thorough washing out of the joint-cavity with solutions of chlorid of zinc or other germicides, followed by drainage. The writer reported four typical cases, three of which had been radically treated, and all recovered with a useful limb, while in the fourth, he incised a peri-articular abscess but hesitated to open the apparently healthy joint. Forty-eight hours later he had to remove a seminecrotic epiphysis, but too late to save the child's life.

Opening the discussion Mr. Barker was glad to hear Mr. Owen distinguish between tubercle and the septic processes; in the one the surgeon could close up the wound, in the others he must leave a drain. Personally, he preferred sterilized saline solution for flushing as being equally cleansing and less liable to depress the vitality of the tissues.

Mr. Golding Bird objected to the wholesale radicalism of the treatment, and reported a case of his own in a boy of eight and one-half years, with typical fulminating symptoms, which recovered completely with a good joint after simply opening the capsule and flushing out the cavity.

Mr. Wallace described a most violent typical case

in a child fifteen months of age, brought into the hospital in a state of coma, with a history of a fall upon the hip a few days before. Upon opening the joint the head of the bone was found not only detached but driven by muscular contraction completely through the softened wall of the acetabulum and lying within the cavity of the pelvis.

MR. MACDONALD related a fatal case in which the joint was not opened during life, but at the autopsy was found full of pus which swarmed with streptococci. Section through the upper end of the bone showed the epiphyseal cartilage healthy and the whole mischief confined to the narrow layer of ossifying cartilage between this and the upper end of the diaphysis.

The President, MR. THOMAS BRYANT, said that in his younger days these cases were seen chiefly in consultation with physicians as suppurative-joint complications following rheumatism, and that before that he had noticed how often the most severe cases of pyemia were those which were accompanied by an abscess in one hip-joint. He saw a typical case only a few months ago which had been mistaken for rheumatism in its first few days, and upon opening the joint found it full of pus. He did not resect but contented himself with drilling through the neck of the bone four or five times, and thoroughly flushing with carbolic solution and draining. He had always found such treatment sufficient and objected to the unnecessary heroicism of resecting in every case.

Mr. Owen, in closing the discussion, replied to Mr. Barker that while he believed sterilized salt solution perfectly satisfactory in tubercular conditions with bacilli of low infective power, yet in these acutely septic organisms he felt safer with active germicides like zinc or mercuric chlorid. He thought the whole pathology of the disease centered round the fact that micro-organisms prefer the delicate, budding tissue of the epiphyseal line, as beautifully demonstrated by Mr. Macdonald, and that this line at the hip happened to be within the joint-capsule. As for the demurs against such radical measures and sacrifice of bone, it was not a question of saving a limb but a life and no half-measures were called for.

The trial of the Christian Scientists for the death of Harold Frederic is now in progress and attracting the keenest attention from all classes. The press comments are surprisingly judicious and show no mercy toward such belated superstitions, especially when the "gifts" are exercised for pecuniary reward. Quite a section of the papers, headed by the erratic *Saturday Review*, is opposing the trial, not from any sympathy with Christian Science, but simply upon the curious ground that Harold Frederic being of age and of sound mind was acting within his rights in risking his own life in any way that he chose. The inalienable right of the adult British subject to make a fool of himself in any way that he pleases, so long as he endangers no one else's safety or comfort, is their plea.

A remedy which is attracting much attention here from its remarkable effects upon chronic ulcers, especially of syphilitic origin, is chinosal. MR. JONATHAN HUTCHISON recently reported a most obstinate case of syphilitic lupus, of three-years' duration, which had resisted the iodids internally and iodoform locally, but which healed in three weeks under chinosal. He said that this was only one of a number of cases in which it had proved most effective in his hands in all forms of tertiary ulcerations.

At the last meeting of the Hunterian Society DR. GLOVER LYON read a paper upon "A New Theory of the Blood-Plasma," which he regarded as made up of minute corpuscular elements given off from the retiform tissue of the intestinal wall. These he regarded as capable of aggregation into the visible blood-plaques, and even corpuscles. This rather startling theory, however, was not supported by any new experimental evidence.

DR. J. H. TARGETT showed specimens from an autopsy upon a child of eleven months which had died of bronchopneumonia, beginning shortly after a sudden attack of choking. Upon section two small corks were found in the stomach, and a larger one one and one-quarter inches long by three-fourths of an inch thick was found embedded in the posterior wall of the pharynx just below the glottis. As the child was insured and its mother had lost five other children of tender years from acute "bowel trouble," all of whom had been insured, there was strong suspicion of foul play, but the coroner's jury could not be brought to think so.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

ANOTHER SYPHILIS BACILLUS DISCOVERED — PERICARDITIS IN CHILDHOOD — MINERAL WATERS IN AFFECTIONS OF THE STOMACH AND INTESTINES —A CASE OF RETROPERITONEAL BUBO — RELATIONS BETWEEN THE STOMACH AND DRUGS — IMPLANTATION OF THE URETERS IN THE SIGMOID FLEXURE—SUCCESSFUL REMOVAL OF A RUPTURED SPLEEN.

AT the Berlin Medical Society, October 19th, VAN NIESSEN spoke on "The Etiology of Syphilis." Some years ago he isolated a syphilis bacillus from the blood of syphilitic patients, and from the marrow of the bones of children suffering from congenital syphilis. Later he concluded that the results were untrustworthy, and turned his attention to condylomata, in which he found a bacillus hitherto not described. He tested its effects upon guinea-pigs, swine, and monkeys. In guinea-pigs inoculation produced pustules without suppuration, and indurated lymphatics. The swine in three or four weeks showed multiform exanthemata, and plaques in the throat. The first monkey showed desquamative pustules with sclerosis, and later indolent buboes in the groins and macular pates upon the tail. In the second monkey similar signs developed, followed by total left-sided hemiplegia; the liver was fatty, and there was a focus in the brain. The third monkey died in coma in four weeks. Its liver was fatty, aud there was also peri-arteritis and leptomeningitis. The fourth monkey was attacked with blindness in fourteen days, and paraplegia of the lower extremities. There was a well-marked eruption. It was treated for four weeks by injections of salicylate of mercury, and recovered its sight and a partial use of its limbs.

One week later it died, and the autopsy showed a hemorrhage in the brain, besides fatty degeneration of the liver, and enlargement of various lymphatic glands. Van Niessen concluded from these experiments that he had found the true syphilis bacillus.

BLASCHKO said that so many good observers had attempted without success to find the syphilis bacillus that a report of its discovery must be accepted with hesitation. Van Niessen had neglected to give the details of his investigations, and a person hunting for germs in condylomata might naturally expect to find a variety of them. As only two years had elapsed since the same investigator announced to the world that he had found the true syphilis bacillus, and so soon afterward had admitted that he was mistaken, Blaschko said that one might better wait until his present results were confirmed by others before accepting this bacillus as the true specific agent in syphilis.

LASSAR said that bacteria were present in all early and late lesions of syphilis. He and his assistants had found a great variety of them, but he did not regard any of these as specific. He was sorry that Van Niessen had not showed to the Society some of the pigs and monkeys. From the descriptions given he thought the lesions which had occurred in the later animals were tubercular.

At the session of October 26th, BAGINSKY read a paper on "Pericarditis in Childhood," a disease which is usually considered to be rare, but which investigation had convinced him to be commoner in children than in adults. He had examined sixty cases. In twenty-four of them there was antecedent rheumatism, and in eleven, antecedent tuberculosis. The same forms of pericarditis as occur in adults were found in these children. In the serous form (sixteen cases) the attack began with severe symptoms, an appearance of distress, rapid respiration, high, but irregular temperature, a pulse sometimes small, and rhythmical beating from one hundred and twenty to one hundred and fifty times a minute; sometimes full and of normal rate. The diagnosis is difficult on account of the difficulty in determining the limits of the cardiac area in a child, whose thorax has such a wide range of motion. One should also remember that the area of percussion dulness is different in children and in adults, for the higher position of the diaphragm in a child gives the heart not only a higher position in the chest, but makes it lie more horizontally than in the adult. As a result of this the dulness of the heart area is continuous with that of the liver, and the apex beat is a lateral thrust outward from the median line. For the same reason the position of the heart when the pericardium is filled with fluid changes little with a change in the position of the child's body. The alterations in the area of cardiac dulness do not of themselves serve to make a differential diagnosis between effusion in the pericardium and dilatation of the heart. Of greater importance are the pericardial murmurs, especially those which are heard over the upper part of the heart. Baginsky found in only a few instances the swashing apex murmur which Rosenbach has described as pathognomonic of pericarditis.

In the suppurative form of pericarditis, the diagnosis from physical signs is still more difficult than it is in the serous form, on account of the small amount of exudate. Hence, the necessity of observing the accompanying symptoms with especial care. The temperature changes by bounds, springing from normal to a very high point in a short time. The general symptoms are usually severe. The tuberculous form of the disease is rare and malignant. The most important form of pericarditis is that occurring in connection with polyarticular rheumatism. It is very common and appears early in this trouble. There is often an increase in the size of the heart, and a formation of adhesions between the heart and the pericardium. As the polyarthritis frequently recurs and with it the pericarditis, the pathologic conditions grow worse and worse as years pass. As for treatment the writer obtained good results by the simultaneous administration of digitalis and diuretin, in doses of 60 to 75 grains per day.

AGERON spoke to the Medical Union of Hamburg, October 4th, on "The Use of Mineral Waters in Affections of the Stomach and Intestines." He lamented that the treatment of diseases of the stomach and intestinal tract had not kept pace with the pathology and pathologic physiology of these organs, and that hydrochloric acid and pepsin still formed the chief medicinal treatment of these diseases. The speaker then took up the indications for and against the use of mineral waters, laying stress upon the following points: (1) A knowledge of the composition of a water before prescribing it. (2) A knowledge of its physiologic and pharmaco-dynamic power. (3) A knowledge of the dietetic conditions under which such a water can work efficiently. (4) An exact diagnosis of the pathologic conditions in the case in hand, according to the modern improved methods of making it.

At the session of October 18th, JESSEN reported a case of "Retroperitoneal Bubo," occurring in a man aged thirty-eight years, and accompanied by high fever, and a moderate amount of swelling in the inguinal glands. There was also enlargement of the spleen, contraction of the psoas muscle, and pain in the region of the left kidney. The trouble was at first thought to be either leukemic or pseudoleukemic. Gradually the swelling increased in the left flank and fluctuation could be made out. An incision gave vent to a great amount of pus, the cavity extending well forward of the kidney. The recovery, which was slow, was uneventful. Fourteen days before his admission to the hospital the patient suffered from three soft chancres and six days later developed fever. The infection from these was thought to have extended first to the inguinal glands and also to the retroperitoneal glands in the region of the kidney.

At the Medical Union in Munich, October 12th, MORITZ spoke of the "Relations between the Stomach and Drugs." There is a great difference in the time of absorption of different fluids from the stomach. Water takes less time than acid solutions, carbonated waters, soup, etc. A pint of water will leave an empty stomach in thirty to forty-five minutes. If a roll is eaten before the water is drunk, the time for absorption will be materially lengthened. A soluble powder will be absorbed

more quickly if taken with water than if taken without. Medicines taken with milk or soup remain longer in the stomach than when taken with water. Resorption is still slower if a meal precedes their administration. Thus, 5 grains of salicylate of soda were absorbed from an empty stomach in half an hour. When taken after a meal there was still a considerable part of the dose remaining at the end of an hour. As a result of these principles the effect of some medicines is different when taking fasting, from that observed when they are taken on a full stomach. Attempts to make a medicine pass through the stomach in insoluble capsules have best succeeded when glutoid has been used as a protective. Gruel made from oatmeal or wheat meal has also a considerable protective action, and it is a real help to give medicines which upset the stomach, such as arsenic or digitalis, in a vehicle of this kind. If it is desired to increase the absorptive power of the stomach it is only necessary to add twenty-per-cent. alcohol, or some irritant to the medicine.

FRANK showed a sixteen-year-old boy to the Imperio-Royal Society of Physicians of Vienna, October 21st, upon whom he had operated for ectopia vesicæ. The ureters, with a portion of the bladder-wall, were implanted in the sigmoid flexure. For twenty days a drain was kept in the rectum which, by a sort of siphon action, kept the patient from getting wet. By that time he had learned to control the escape of water from his rectum, so that he could go for one or two hours, or even longer, without emptying the viscus. In the night he was not awakened by the necessity of evacuation.

EWALD reported a similar operation performed upon a five-year-old boy, with an equally good result. Maydl used to say that this operation should not be performed before the tenth year, but he had carried it out with success upon a patient only three years of age. On account of the thin walls of the ureters, and the fact that the bladder was in part present, the operation was a particularly difficult one. The siphon-drainage recommended by Frank did not succeed in keeping this patient dry.

SCHNITZLER had twice implanted the ureters in the sigmoid or the colon; once for a vaginal fistula, and once for a carcinoma which had broken through into the bladder. The latter patient was in good general condition, and threatened suicide on account of her distressing urinary condition, and he, therefore, thought that it was justifiable to make an attempt to relieve her. One ureter was implanted in the ascending, and the other in the descending, colon. The patient died from the effects of the operation, and the autopsy showed necrotic areas in the mucous membrane of the colon, set up, it was thought, by a preexisting pyelitis.

SAVOR showed a ruptured spleen which he had removed from a woman in the sixth month of pregnancy. The rupture was a multiple one, and had been caused by a kick. There was little shock, but as the condition upon the following day showed internal hemorrhage, the abdomen was opened. The uterus was found to be in perfect condition, the injury being confined to the spleen, which was removed. The patient did not abort, and made a slow but complete recovery. This is the ninth recorded case of removal of a ruptured spleen, six of the patients so operated upon having recovered. The prognosis is far better when the rupture is not immediately due to the trauma, but is the result, as it was in this case of the distention caused by a subcapsular hematoma.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.—SECTION ON GENERAL MEDICINE.

Stated Meeting, Held Tuesday, November 15, 1898.

DR. LOUIS FAUGERES BISHOP in the Chair.

DR. WM. N. HUBBARD, the secretary, read for Dr. George Roe Lockwood of New York, who was unavoidably absent, a paper, entitled

THE NON-MEDICINAL TREATMENT OF HABITUAL CONSTIPATION (see page 741).

This was followed by a paper by DR. JUDSON DALAND of Philadelphia on

CONSTIPATION AS A CAUSE OF ANEMIA AND CHLOROSIS.

Scarcely anything, of course, can be added to Sir Andrew Clarke's classical work on the connection between constipation and chlorosis. The subject needs to be dwelt on, however, to bring home its lessons practically. Besides the general effect of constipation on the blood in the production of anemic conditions it still furnishes excellent opportunities for study. It is especially to be remembered that though stools may be regular constipation may exist. A patient who should pass six to seven ounces of feces, for example, may pass but five or six, so that accumulation of fecal material may occur despite regular stools. It is the effect of the toxins absorbed from this accumulated feces that is to be feared. In atonic constipation, despite regular stools, we may be able to wash scybalous masses out of the intestine that show by their form that they have been molded in the intestines perhaps by weeks of retention.

Dr. Daland then detailed two cases of chronic constipation with an associated chlorotic blood-condition as types of the blood-changes due to the toxemia incident to constipation. One was that of a child of twenty months, where all the blood-symptoms of pernicious anemia were present. Only the disproportionate decrease of the hemoglobin in successive blood-examinations had revealed the fact that it was a chlorotic condition.

In all intestinal trouble these blood-changes are liable to occur. They complicate especially typhoid fever and much can be done for them if properly recognized. Many general disturbed conditions of the system are associated with intestinal trouble and these blood-changes. Biliousness, so called, and analogous conditions are undoubtedly influenced by such factors.

Dr. Daland commends for these conditions especially high large injections of saline solution. The whole colon may thus be flushed and his experience on Swinburne Island during the last cholera scare showed him that at

times even the ileocecal valve could be passed and the small intestine flushed out in this way.

In the discussion, DR. BEVERLEY ROBINSON said that prophylaxis is an important element to be considered in the matter of constipation. Mothers are to blame for not insisting especially that their daughters should learn regular habits in the matter of the evacuation of their bowels. The neglect of this undoubtedly has most serious consequences. From the indifference springs evil habits and untold evil. In seven out of ten cases the supposed uterine troubles, the persistent headaches, the chlorosis, the nervousness of women arises from the neglect of the bowel movements. Society's conventions are against the formation of regular habits in the matter. Civilization is to blame in certain respects. In New York there is practically no place where women may go if for any reason they have not been able to fulfil the function at a regular time. It is a shame that it is so. Other cities, notably Paris, have very laudably provided for such necessities of nature and New York certainly should be stirred up in the matter. Still another source of constipation is the use of all sorts of patent nostrums to secure a movement of the bowels until finally a condition of non-irritability develops and makes the subject most difficult to treat. Often these proprietary purgatives act for the time being at least as well and sometimes better than the regular prescriptions, but the inevitable result of using purgatives habitually asserts itself sooner or later. As to chlorosis and constipation he had seen constipation without chlorosis and chlorosis without constipation. There is a certain amount of interdependence between the affections though it does not seem in his experience as much as is often claimed.

DR. VAN VALZAH thinks the treatment should be more specific. He considers that the most important thing in the treatment of constipation is the recognition of its cause. This is often in the stomach. In thirty cases examined chemically by him recently he found absence of all stomach secretion though absolutely no symptom pointing to stomach trouble had been complained of. There was only diarrhea, and no wonder, since food was being passed on to the intestines in an absolutely unprepared state. Hypersecretion, especially hyperchlorhydria, led to constipation. For these cases Carlsbad salts is the very best remedy. They are purgative and also alkaline, and used for two or three weeks they give excellent results. Milk of magnesia is the next best remedy, and calcined magnesia might be employed with good results at times. Myasthenia of the stomach with failure of motility and dilatation, indicated by the well-known splashing sounds, is often accompanied by myasthenia of the bowels. In these relaxed conditions with muscular degeneration there must be no laxatives used; they will only make matters worse; tonic, not irritant treatment, is required. After the stomach the liver should be thought of. If the stools are pale in color calomel in minute doses should be given: $\frac{1}{15}$ or $\frac{1}{16}$ of a grain frequently repeated. When the trouble is in the small intestine the prominent symptoms are an increase of gas, a burning feeling, a sense of unrest, of oppression referred to the abdomen, and finally the presence of indican in the urine. This last is important. Water he thought of the greatest importance. Not enough water is drunk, especially in the cities, and two to six glasses of it should be prescribed between meals. This is often enough of itself to overcome the tendency to constipation. Of drugs he had found that rhubarb gives good results and does as little harm as possible. In myasthenic states particularly the tannic acid of the rhubarb tones up the muscular coat of the intestines. Of course it should not be given to such an extent as to produce loose stools as it will then inevitably be followed by constipation.

In spasmodic states of the intestine, of which ribbony stools is the pronounced symptom, some of the antispasmodics are to be used, for instance, hyoscyamus in large doses, 1 to 1½ grains or even to the production of slight toxic symptoms. Cascara, when properly employed is an invaluable drug. Every one should have some fixed time when they go to stool. This should be when they are at leisure. It may be any time, morning, noon, or night. The cascara should be given not three times a day as is often done, but in one dose so as to act at the desired time. The fluid extract of Parke, Davis, & Co. has given him the best satisfaction. The dose must be decided for each patient and must be just enough to produce a formed not a loose stool. After ten days to two weeks the dose may be lessened by a drop or so every third night, not oftener, and thus the patient gradually brought to do without its assistance.

As to fruit it does good so long as it does not increase gas formation, or produce burning feelings or diarrhea. If it occasions any of these symptoms it is not doing good.

DR. L. EMMET HOLT said that in children the conditions leading to constipation are, in contradistinction to what obtains in adults, comparatively simple. The first thing to do is to find out the entire daily routine of the child. Usually there is some fault of regimen. Correct that and the trouble ceases. The nurse is mostly at fault and a good nurse seldom has a constipated child to care for. In his own children he has often noticed this fact and without a careful nurse drugs and directions for diet, bathing, and massage often fail of any lasting effect. At times there is too little residue left from the child's food and then this must be corrected. Usually all the ingredients need to be increased, not the fats alone, because this will almost invariably lead to dyspepsia and increase the constipation. During the summer, while in the mountains, he saw a man who had himself been greatly helped by his morning cold plunge take his nursing baby down to the lake (water at 70°) and give it a short plunge-bath with excellent results as regards constipation. As for drugs cascara is undoubtedly the best, while suppositories are of great value in producing a movement at a given time in order to create the habit.

DR. JACKSON considers that the most important factor for treatment is the decision of the question as to which class of constipation the patient has. Is it due to abnormal conditions of the digestive tract or is it functional and due to the patient's general condition?

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXXIII. NEW YORK, SATURDAY, DECEMBER 17, 1898. NO. 25.

ORIGINAL ARTICLES.

CAMPHORATED TINCTURE OF OPIUM IN CUBAN MALARIA, MIXED MALARIA, AND TYPHOID-FEVER INFECTION.[1]

BY W. H. THOMSON, M.D.,
OF NEW YORK;
PHYSICIAN TO THE ROOSEVELT HOSPITAL.

AT the beginning of my service at the Roosevelt Hospital on the first day of September, last, I found in my wards 61 cases of Cuban malarial fever in soldiers who had contracted the disease at Santiago. The majority of them had been in the hospital from August 17th. The duration of their illness before coming to the Roosevelt Hospital had ranged between 20 and 40 days. In all instances they had been treated first with quinin, and in a large proportion this had been supplemented by free dosing with Warburg's tincture, and with arsenic.

Subsequent to September 1st and extending to October 20th, 39 additional cases were admitted, making 100 in all, besides a group of mixed malarial and typhoid-fever cases, to be referred to later. Of this list 63 were actively febrile, the temperature ranging from 103° to 107° F. Of these 40 per cent. had chills, with the usual succession of symptoms, but with true intermissions in only 10 per cent. The chills were irregular rather than periodical in the remaining 30 per cent. They seemed in some cases to be double tertian and in some double quartan, but it was difficult to settle this fact conclusively in any of them, as the paroxysms of rigors were very irregular. The remaining 60 per cent. of the febrile patients had no chills, and the course of the fever in them was very variable, the temperature range rising and falling with such irregularity that the curves on the charts were in this respect characteristic of the affection and in marked contrast with those of typhoid fever.

The plasmodium malariæ was found in 90 per cent. of all the cases, in some, however, not until after repeated examinations. The commonest forms were crescentic. Some patients showed relatively large crescents, and some small. These crescents were often very numerous, occasionally markedly so in groups of patients who had been admitted together, as if they had been equally exposed to the same infection. Besides the crescents there were many actively motile extracellular bodies visible which were very small and round in contour. Masses of free pigment were often seen in the field as well as in the white corpuscles. Only one definite separate flagellum was detected, but more might have been found but for press of time.

In their clinical features the most pronounced effect on the patients of the infection was anemia, with emaciation, often extreme. The impoverishment of the blood seemed to be progressive, for it continued in many of the afebrile cases, much as it does in patients with pernicious anemia without febrile paroxysms. The anemia also appeared to be quite independent of enlargement of the liver or spleen. The liver was noted as enlarged in not more than five per cent. The spleen was enlarged in about fifty per cent.

In the great majority of the patients when they were running an actively febrile temperature there was no delirium, but instead a characteristic taciturnity, all questions being answered correctly, but slowly and in monosyllables, the patients remaining wholly apathetic and indifferent to their surroundings. It was upon this particular symptom that the effect of a special medicinal treatment to be mentioned presently was most marked.

After admission to the hospital some 65 of these patients were treated for fourteen days by careful feeding and nursing, in hopes that the change from camp and transport conditions would of itself be beneficial, and, along with this, quinin in doses of from 30 to 60 grains a day was administered, or Warburg's tincture in ½-ounce doses three times a day, while others were treated with arsenic, either alone or added to the other drugs. The general results, however, had been unsatisfactory. In some cases the quinin held the temperature for a few days, but only to be followed by relapses. Its best results were in the small number of patients who showed periodical remissions. Warburg's tincture seemed to be more successful than quinin, but arsenic, though pushed to the production of digestive disturbances, appeared to be of very doubtful effect. Cold baths were used for six patients with high temperatures, but they did not bear the baths well, while the course of the fever not being modified thereby, the baths were abandoned.

The report of this experience of two weeks in the management of these patients led me to try a modi-

[1] Read before the Medical Society of the County of New York, November 28, 1898. For discussion see page 813.

fication of treatment as follows: Fifteen grains of quinin with 15 grains of powdered ginger were administered twice a day, once in the forenoon and once in the afternoon, with ½ an ounce of the camphorated tincture of opium, and a like dose of the latter without quinin at 10 P.M. An ounce and a half of paregoric, equal to 3 grains of opium, was thus taken daily. All the patients with whom this was first tried, 47 in number, were actively febrile, 84 per cent. of them severely so. In order, however, to test comparatively the effect of this medication 14 febrile cases, of whom 65 per cent. were severe, were treated with Warburg's tincture alone, as controls.

The results were as follows: In 22, or 47 per cent., of the number who took paregoric the result was an immediate break in the fever, that is, the temperature fell to normal within 24 hours, nor did it rise again afterward. This effect was the more impressive because in every instance they had been unavailingly treated for an average period of ten days previously without reducing the fever. The treatment was then continued from 7 to 14 days when the men were discharged. Under this heading of reduction of temperature in 24 hours, were 5 patients who had been treated exclusively by large doses of Warburg's tincture without its affecting the temperature. Of the remaining 25 out of the 47, there were ten patients, or about 21 per cent., in whom it took from 36 to 48 hours to reduce the temperature to normal. Of the remaining 15, there were 3 in whom this treatment failed to control the temperature. One of these, however, had a severe chronic colitis, to which his moderate but long-continued fever seemed to be mainly due.

No relapse was recorded in the case of any patient who took the paregoric treatment after the temperature was once reduced to normal. In 1 case it took 3 days before the temperature became normal. Previously, the patient had not been affected by Warburg's tincture. In 5 cases, or 10.6 per cent., the paregoric treatment could not be continued on account of its causing nausea. These patients were then treated by the above doses of quinin and ginger alone, with a relatively slow recovery, except in 1 case which soon yielded to a third dose added to the usual prescription.

The remaining 6 cases out of the 47 proved in time to be cases of mixed infection of malarial and typhoid fever. The differential diagnosis in these patients was at first difficult, but in time was readily demonstrated. Other than among the 5 above mentioned, who could not take the paregoric without vomiting, there were only 2 patients who showed any of the ordinary symptoms of opiates. The remainder had no narcotic symptoms whatever, but quite the reverse, the paregoric seeming to raise them out of their stupor, and the patients almost invariably spoke of their feeling generally much better and stronger immediately after taking it.

To compare now the 14 cases treated with Warburg's tincture: In 2 patients, or 15 per cent., the temperature was reduced in 24 hours. These were both recently admitted patients who previously had been treated with quinin. In 12, or 85 per cent., it took from 48 hours to 10 days to break the fever. Besides these, there were 7 cases in which the Warburg tincture failed to break the fever after 10-days' treatment, though as some of these patients also took quinin they are not included among those who were put on the Warburg tincture alone, as control cases. All of these 7 patients recovered in from 24 to 48 hours under the paregoric treatment after it was adopted with them. Of the remaining 39 out of the total of 100 patients, 26 were admitted as convalescents without any fever. They were, however, in a very reduced state, the greater number being very anemic, and the plasmodium malariæ was found in 80 per cent. of them, often in as large a proportion as in the febrile patients. They were all treated with the paregoric, quinin, and ginger, the same as the febrile patients, with apparently just the same beneficial results, as appears in the following summary of the general effects:

Of the 47 above-mentioned patients treated with paregoric the general condition upon admission was reported as "very weak" in 17, or 38 per cent.; as "weak" in 10, or about 21 per cent.; as "fair" in 20, or nearly 43 per cent. Of these 3 classes, the effect of the paregoric treatment upon the 17 very weak patients is noted as "excellent" in 13, or 76 per cent.; as "fair" in 3, and as "negative" in 1. Among the 10 classified as weak, it is reported "excellent" in 7; "good" in 2, and "negative" in 1. Among the 20 classified as in fair condition when admitted, the effect is reported as "good" in all, with one exception in which it failed to reduce the temperature. Of the 39 afebrile patients admitted as convalescents, about 38 per cent. were in a very weak state. All of these had been treated previously with iron, and some with arsenic as well, for their extreme anemia. Several of these patients were delirious on admission, and it was in them especially that the paregoric seemed to act most promptly in restoring the mental equilibrium and in improving the appetite. In only 4 of the 39 was it reported that they were unable to take the paregoric with benefit. While taking the paregoric they were treated for the anemia with a pill of 2 grains of iron sulphate, 2 of

black pepper, and 1 grain of powdered nux vomica. Among the 14 cases treated exclusively with Warburg's tincture, 2 were classified as "very weak," 5 as "weak," and 7 as "fair." Both the 2 very weak, and the 5 weak patients, were not improved in their general condition at all, and of the 7 in fair condition at the commencement, 2 were made worse and 5 made a fair recovery.

From both the blood examinations and the clinical features of the fever, it is evident that the Cuban malarial parasite with which we had to deal belonged to the estivo-autumnal type, and that its cycle of development in the blood was very irregular in time, so that a corresponding irregularity resulted in the febrile reaction connected with the times of sporulation of the parasite. This would seem to indicate that the specific action of quinin, so well marked in our American tertian and quartan fevers, is best secured during the afebrile periods, or only at certain stages in the life history of the parasite, but that in the more or less continuous forms of malarial fever it loses much of its effect. The only patients among our present group in whom quinin was singly effective were those, as above-mentioned, who had definite intermissions. When, therefore, we have to deal with an infection which does not afford us any regular intermissions the action of quinin is still valuable, but it greatly needs to be supplemented by other remedies. Increasing the doses of quinin in such patients does no good whatever. One patient stated that he took 40-grain doses three times a day, and thought that it made him a great deal worse.

It has been a matter of common experience, especially in the treatment of malarial fevers in the tropics, that the action of quinin appears to be promoted by the simultaneous administration of various spices. The remarkable farrago of compounds in Warburg's tincture, the original formula of which is said to have contained 76 ingredients, powdered snake skins among the rest, doubtless owes much of its efficiency in chronic malarial disorders to its predominant proportion of spices. I have been accustomed, therefore, for many years to prescribe powdered ginger along with quinin, in equal quantities, and I have felt convinced that I can get along with smaller doses of the quinin itself by adding the ginger, in the treatment of our ordinary intermittents. In a number of cases I add pulverized capsicum, 1 grain to 4 of quinin. I have known ginger alone, administered in free doses in hot milk to break up chronic ague of the quartan type, when quinin had conspicuously failed.

Opium is one of the most ancient of remedies in the treatment of malarial fevers, as it was largely used by both the Greek and the Roman physicians. It maintained its position quite down to the period of the introduction of Peruvian bark, and afterward. In the Seventeenth and Eighteenth Centuries it was often prescribed in full doses, generally in tincture form, taken about an hour before the expected paroxysm. In this century it was highly praised by Lind in England, and by Dickson of South Carolina, to break up the cold stage, and Dickson cites approvingly its employment by a number of physicians in our Southern States in the treatment of their so-called bilious remittent fevers, in combination with camphor, administered every three or four hours.

It is interesting to note in this connection some of the conclusions of the British Royal Commission appointed to investigate the opium question in India in the years 1893–94. In this voluminous report of the testimony of 900 persons, in reply to 28,000 questions propounded by the Commission, a large majority of the replies were in favor of the use of opium as a prophylactic and antidote to malarial fever in India. Sir William Roberts, the well known medical author, who served upon this commission, in a paper read by him as President of the Section on Pharmacology and Therapeutics of the British Medical Association, in 1895, maintains that the antimalarial properties of opium are due to its alkaloid, commonly named narcotin, but which he claims should be termed anarcotin, as it has neither anodyne nor narcotic properties, but acts instead as an antiperiodic. The proportions of the two alkaloids in Smyrna opium are: morphin, 8 per cent.; anarcotin, 2 per cent.; while in Bengal or India opium the proportion is morphin, 4 per cent., and anarcotin 6 per cent. Anarcotin, as an antiperiodic, was brought to the notice of the Indian Government fifty years ago as a substitute for the then scarce and expensive quinin by Sir William O'Shaughnessy, 1838, who reported 138 cases of intermittent and remittent fevers treated with it with 65 per cent. of cures. These results, and others of like character, induced the Indian authorities to institute further experiments, and these proving favorable, they caused anarcotin to be prepared in quantity at the laboratories of Ghazipur and Patna, and distributed to the medical depots throughout India. Sir William Roberts then cites two communications on the antiperiodic powers of anarcotin which are based upon a large experience, and claims that they prove incontestably that anarcotin is scarcely inferior, and in some classes of cases is superior, to quinin. The first communication from Dr. Palmer reports the results in 980 patients treated by doses of from 1 to 3 grains of anarcotin. He states that in 70 per cent. the fever was aborted at the second paroxysm

after the medicine was administered, in 20 per cent. the arrest was equally sure, but was not quite so quick, and in 10 per cent. the remedy failed. He further remarks that there are cases in which anarcotin is decidedly more efficacious than quinin, when quinin has been given for a long time without effect. The second report from Dr. Garden on the use of anarcotin in 684 cases of malarial fever in the same district is very much the same as that of Dr. Palmer.

Whether the beneficial effects of the camphorated tincture of opium in the cases included in my report were due to an ingredient of opium capable of acting directly upon the plasmodium malariæ as quinin does, I am not prepared to say. I am rather inclined to the opinion myself that the opiate acted as a stimulant which enabled the system to cope better with the malarial toxemia, and on that account I chose the camphorated tincture in preference to any other preparation of opium on account of its more pronounced stimulating properties due to the addition in the preparation of camphor, benzoic acid, oil of anis, and alcohol. However that may be, the effects of this preparation were in the great majority, as above noted, the very reverse of narcotic, and more like those of both a cardiac and general nervous stimulant.

With reference to the cases of mixed infection of malarial and typhoid fever there were six instances. All of the patients had a history of malarial fever previous to the development of the symptoms of typhoid fever, and in each of them the plasmodium malariæ was found on admission to the hospital. They all ran the usual course of typhoid fever, and in four of them the plasmodium had entirely disappeared from the blood when they became convalescent. The typhoid fever itself was treated according to our ordinary hospital treatment without any quinin throughout. In 2 cases, however, after the patients seemed to be fairly convalescent from typhoid fever, they were attacked with chills and sharp rises of temperature, and with a reappearance of the plasmodium in the blood. However, these soon yielded to the quinin and ginger treatment without paregoric.

Besides these we had 33 cases of typhoid fever in soldiers, 20 from Chickamauga Camp, 8 from Montauk, 2 from Jacksonville, 1 from Tampa, 1 from Santiago, 1 from Thomasville. Of these, 18 were registered as "severe" cases, 6 as "fair," and 9 as "mild." They all recovered except 3, 1 from Jacksonville, 1 from Chickamauga, and 1 from Montauk, whose cases were interesting from the fact that all 3 succumbed while they were apparently convalescing from intestinal perforation. As this is a rare accident, occurring only once in 150 consecutive cases at the Roosevelt Hospital, and here we had 3 cases in the first 27 soldier cases admitted, their histories were investigated, with the result that all 3 had refused to go to their regimental hospitals when they first became ill, preferring to report at drill instead, until they were prostrated by weakness. This record serves to illustrate the danger of walking about while a condition of ulceration is present in the intestine. In 2 of these patients laparotomy was performed by my colleague, Dr. Abbe, as soon as possible after the onset of the symptoms of perforation. The seat of the lesion was found in each, and the intestine resected. One of the men lived 24 hours after the operation, and the other five days.

Besides the 33 soldiers with typhoid, we had 32 other cases of this fever at Roosevelt during the months of September and October, admitted from the city, of whom 18 were males and 14 females. Of these 32 patients, one died, but he was far advanced in the disease, and in a serious condition at the time of his admission to the hospital. I beg leave, therefore, in conclusion, to make a reference to two measures of treatment which I adopted, which may be of interest. Twelve patients were given cold baths with salts and carbonic acid, in imitation of the Nauheim baths, obtained from the Triton Company of Cliff street. The temperature-charts of twelve other patients, as near as possible like them in condition, and at the same fever stage, to whom the ordinary cold baths were administered, were used for comparison. In every instance the effect of the cold Nauheim baths was to lower the temperature for a longer time than the corresponding simple cold-water baths in the control cases. In other respects the effect seemed also favorable, the stimulating cutaneous impression of the carbonic acid appearing to counteract the depression of the cold, though for a time the nurses complained of the prickling of their hands from the gas and the salts.

My second observation is in reference to increasing the elimination of toxic ingredients from the blood in the urine by the diuretic effects of intestinal lavage with normal salt solution. The amount of urine passed in the 24 hours was first measured for two days, and then lavage was employed once a day at 4.30 P.M., with six pints of normal salt solution at a temperature of 104° F., administered by Kemps' rectal irrigator. This was employed in 9 cases. The amount of fluids taken by mouth by the patients was also measured during the 48 hours before commencing the lavage, and they were not allowed to take any greater quantity of fluids daily during the treatment. The result was that in 7 cases the urine was increased from 10 to 20 ounces daily. In 1 case, seen in consultation in private practice, in which

there was albumin in the urine, and the amount passed in 24 hours was only 20 ounces, after the lavage it rose to 48 ounces daily, and the albumin disappeared. There could be no question also that the general symptoms of these patients markedly improved at the same time, but the number is too small to base permanent conclusions upon this measure, though sufficient to encourage further trial. In 1 case it had to be intermitted on account of hemorrhage, and in 1 patient, who was suffering from a relapse, it seemed to be of no particular benefit. The theory on which this procedure is based is that as the greatly increased toxicity of the urine in typhoid fever has been fully demonstrated as following upon a cold bath, so whatever increases urinary elimination may be regarded as contributing to free the blood of toxins. That intestinal irrigation with hot saline water does have a positive diuretic effect I have seen demonstrated often in other conditions, and hence I believe that it may be of service in the management of this particular fever.

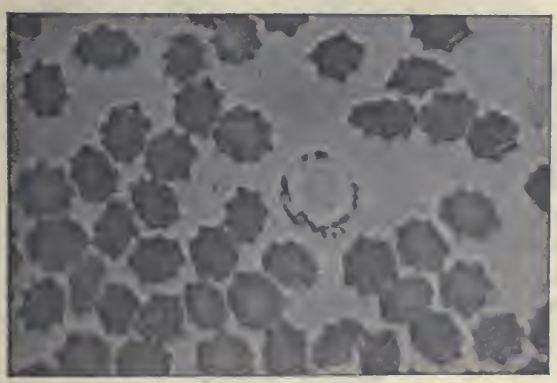
THE CUBAN FEVER PLASMODIUM.[1]

BY ROBERT L. WATKINS, M.D.,
OF NEW YORK.

BEFORE showing you the plasmodium of Cuban fever, I will first throw on the screen a photograph of the spherical form of the hematozoa more observed some years ago than at present perhaps.

Next I show you the spherical form found in a specimen of blood taken from a negro off the Gold Coast of Africa and sent to me by Dr. Hall of London some years ago. The blood was some six weeks

FIG. 1.

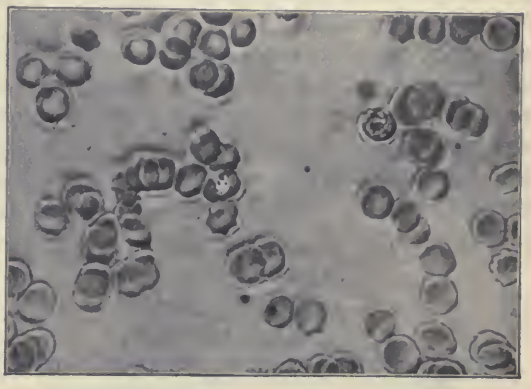


Melaniferous leucocyte described by Laveran.

coming, yet when it arrived this form of Laveran's plasmodium was found in the specimen, as well as that of the *spirochotæ* of Obermier and which I have not time to show you. The next is the melaniferous leucocyte as Laveran describes it ($\frac{1}{10}$ Zeiss objective), taken from one of two men who had been in Central Africa (Fig. 1).

Now that you have renewed your familiarity with the shape of the plasmodium, I next call to your notice the blood of a Santiago soldier (Fig. 2).

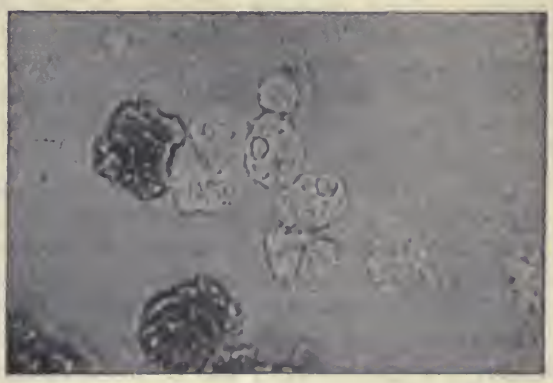
FIG. 2.



Plasmodium present in the blood of a man ill with Cuban malarial fever.

This man, aged twenty-four years, was not sick until he reached home in August. He was then taken with fever and chilliness, but no real chill, the fever fluctuating from 102° to 104° F. and back to normal, irregularly. He had diarrhea, cough, expectoration, and emaciation to such an extent that some of his friends feared consumption. He was, of course, very yellow like the rest; but very little pigment was found in his blood. He was placed on 4 grains of quinin 4 times a day and slowly got better. He was

FIG. 3.



Specimen from a malarial patient at the New York Polyclinic shows the segments of the plasmodium being absorbed and carried away by leucocytes. Fibrin here is also very distinct.

on quinin when this photograph was taken. The germ is of the irregular form of the estivo-autumnal type and, according to Thayer's plates, would come under the head of circular pigment clumps or the pre-

[1] Stereopticon exhibition before the Medical Society of the County of New York, November 28, 1898.

segmenting, the fever of which, according to Osler, is irregular.

Dr. Orin Andrews of Gardner, Mass., whose patient this was, writes me that this man was taken with typhoid fever October 1st, with the characteristic symptoms of intestinal hemorrhage, epistaxis, and rose spots.

The next specimen (Fig. 3) shows the condition of the blood of a malarial patient at the New York Polyclinic Dispensary. He had irregular chills, and at the time the photograph was taken his temperature was 102° F. He was given 4 grains of quinin three times a day. The broken segments in the white cells can be seen quite plainly. Some have been partially absorbed, and therefore are not distinctly outlined.

COMPARATIVE MORPHOLOGY OF MALARIAL PLASMODIA.[1]

BY JAMES EWING, M.D.,
OF NEW YORK.

The Tertian Parasite.—The earliest form of the tertian parasite appears in the stained specimen as a spheroidal or irregularly-shaped, unpigmented body, staining densely, but somewhat unevenly. These bodies are indistinguishable from similar forms of other varieties of parasites. The earliest form of the parasite distinguishable as belonging to the tertian type is an irregular ring-shaped body, exhibiting a distinct achromatic spot, and occasionally a few fine grains of pigment. The red cell is then somewhat swollen.

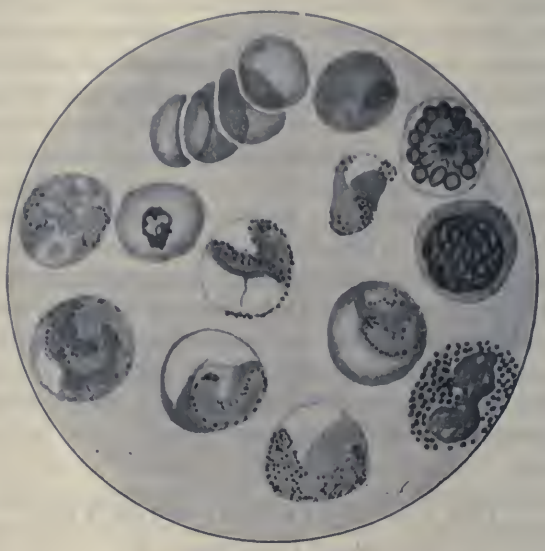
The later stages of the tertian parasite appear in stained specimens as bluish-colored bodies of very irregular shape, depending on the activity of the ameboid motion at the moment the cell dries. The pigment deposit gradually increases, the diameter of the swollen cell enlarges, and the loss of hemoglobin is usually marked.

The body of the parasite stains uniformly bluish, no reticulum being usually visible, although the achromatic spot gradually increases in size.

In the presegmenting forms the body of the parasite exhibits a distinct, deeply-stained reticular structure. The achromatic substance appears to subdivide, and many clear areas appear in the meshes of the reticulum.

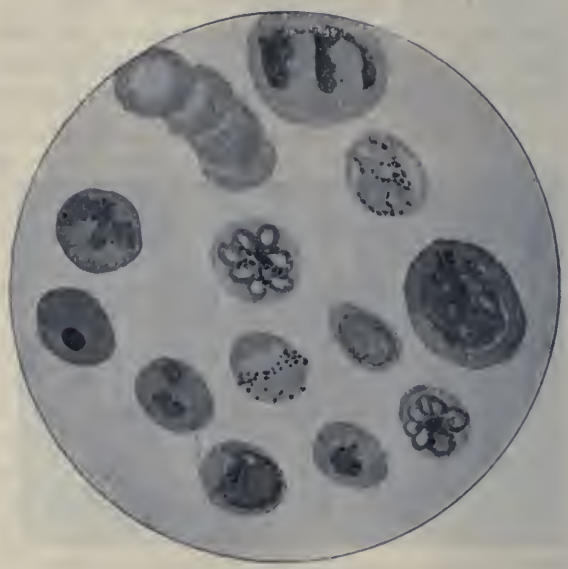
In the segmenting tertian body the pigment is usually, but not always, gathered in the center of the rosette. The reticulum having deepened, the meshes become rounded, and finally break up into fifteen or twenty spores, each enclosing a portion of the achromatic substance. With the rupture of the red cell the new spores and pigment are discharged into the plasma, at the time of the paroxysm. The spores soon enter new red cells, while the pigment is carried to the internal organs, principally the marrow, spleen, and liver, and there englobed by phagocytes. The pigment of the tertian parasite is very fine in the early stages of the organism, increasing in coarseness with its further development, and in the segmenting bodies, coarse blocks may be found.

FIG. 1.



The tertian parasite.

FIG. 2.



The quartan parasite.

The Quartan Parasite.—The quartan parasite is very similar in morphology to the tertian organism. In all except the earliest stages it may be distinguished from the tertian parasite by its higher refractive quality and more sluggish ameboid motion

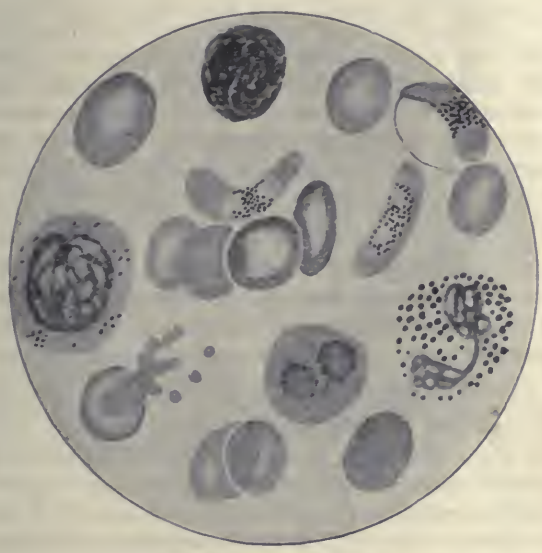
[1] Drawings made and contributed to the MEDICAL NEWS by special request.

in fresh specimens, and by the shrinkage of the cell and presence of coarse pigment grains as seen in stained specimens.

The quartan rosette is very characteristic, and being usually present in the circulation in considerable numbers furnishes the most reliable evidence on which the quartan parasite may be identified. The quartan rosette is smaller than the tertian form, the cell is shrunken but not decolorized, the pigment is coarse and often radially grouped, while the spores number only seven to twelve.

The Estivo-autumnal Parasite.—The estivo-autumnal parasite, or the malignant tertian of Italian writers, is first seen in the red cell, or plasma, as a minute spheroidal body, usually appearing slightly vesicular in stained specimens. Very soon the

Fig. 3.

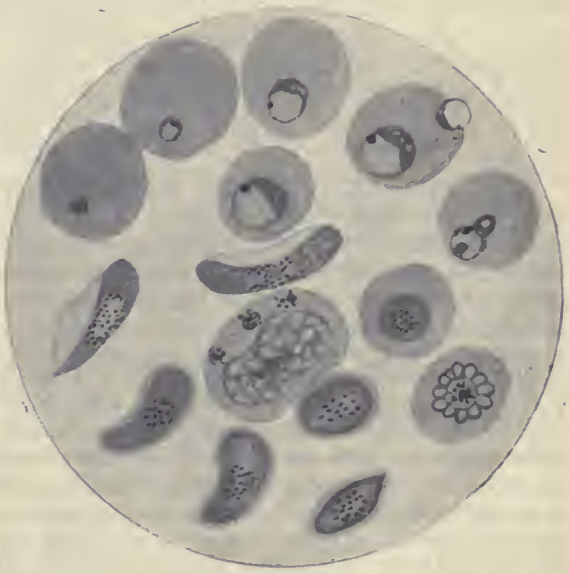


The estivo-autumnal parasite.

spheroidal body becomes distinctly vesicular and usually a densely staining point may be distinguished. Very soon after infection the red cell begins to shrink, but its decolorization proceeds slowly. After a few hours the very characteristic "signet-ring" form of the parasite is found in the red cell. The ring, in properly fixed and stained specimens, is very regular in outline. About one-fourth or one-third of the circumference exhibits a marked thickening, recalling the seal of a ring, while the bow of the ring is extremely fine and geometrically circular. At a variable point in the ring a densely staining point may usually be seen, and in many specimens one or more minute achromatic spots may be distinguished. Double infection of the cell is not uncommon, and occasionally the ring appears to be attached to the surface of the cell, or the bow may project beyond the edge of the cell. Occasionally there is an ingrowth of the parasite from the bow of the ring, but the further development of this peculiar body usually proceeds in the viscera only and cannot be followed in the peripheral blood. In marrow-smears, the body which appears to form the next developmental stage of the ring appears as a distinctly spheroidal parasite, staining deep blue in its peripheral and much lighter in its central portions. It usually occupies about one-half the diameter of the shrunken cell.

While the ring forms of the Cuban malarial parasite are almost invariably non-pigmented, the spheroidal body is nearly always richly pigmented. The segmenting bodies of the estivo-autumnal parasite are found exclusively in the viscera, and especially in the spleen, marrow, and brain. These forms differ

Fig. 4.



Estivo-autumnal parasites.

from the tertian rosettes in being distinctly smaller in size, on account of the smaller size and lesser number of the spores. The number of the spores appears to vary from twelve to eighteen.

Beginning with the pigmented spheroidal body, a second developmental cycle, usually regarded as sterile, seems to occur in established cases of estivo-autumnal malaria. The end product of this cycle is the fully developed crescent, between which and the spheroidal body all transition stages may be readily followed in many cases. The spheroidal body becomes first ovoidal or elliptical, then elongated, and finally crescentic. The adult crescent is a very characteristic form. When deeply stained with eosin it usually shows a reddish stained outer membrane. Stretching across the concavity is a thin, apron-like membrane, which is probably the rem-

nant of the red cell. The body of the crescent stains unevenly, and is usually much lighter at its central portion, where a darkly staining point may sometimes be seen, and where there is an abundant collection of pigment. The pigment of all stages of the crescent is very coarse and distinctly golden-yellow in color. Pigmented mononuclear leucocytes are frequent and of very characteristic appearance in established cases of malaria. The pigment occurs in single grains or in peculiar clumps.

ANCIENT FULL-TERM ECTOPIC PREGNANCY.[1]

By J. WESLEY BOVEE, M.D.,
of Washington, D. C.

The rarity of old cases of full-term ectopic pregnancy, together with a few interesting matters met with recently in a case of this kind, has led the writer to briefly call your attention to the variety of conditions included under this general heading. Perhaps the best method of presenting the subject will be to recite the history of that case, which is as follows:

Mrs. J., white, thirty years old, residing at Wakefield, Westmoreland County, Virginia, a plantation historic for having been the birthplace of General George Washington, was sent to my service in Columbia Hospital for Women by Dr. William Washington, her family physician, in March, 1898.

During her girlhood she did not enjoy good health. Her menses began at the age of fourteen years, were irregular for the next few years occurring but two or three times annually, but later became quite regular for a few months, and then for a number of months at a time were absent. This irregular interruption of the flow for months has continued to the present time. Living in a malarial region she has suffered more or less from malarial poisoning all her life, and this with measles and other slight diseases, has kept her in bed a great deal. All during her premarital life she was very much annoyed with leucorrhea. She was married at eighteen, and three or four months later had an abortion, which was attributed by her physician to heavy lifting. Her health continued about the same, and twelve months later she was delivered of a female child after a short and easy labor. No physician was present. Previous to its birth her face, eyes, feet and genitals were swollen.

There was nothing of note in her condition until about December, 1888, when she began to have severe pain in her left inguinal region and left hip. A "knot" appeared in this region and gradually increased in size; a little later fetal movements were felt and she expected to be confined in August, 1889. "August 1, 1889," Dr. Washington wrote, "she was in labor, after having all the symptoms of pregnancy, and when I saw her August 15th, a diagnosis of extra-uterine pregnancy was made and the patient advised to call a surgeon." The pains continued about three months, after which period they gradually became less, but occurred with relapses sufficient to keep her in bed. Three years ago she gave birth to a live child, and during this pregnancy seemed to suffer no more than previously. The labor was short and much easier than the first, eight years before. During the following year the patient enjoyed better health than before, but at the end of that time had another relapse and "was just able to drag herself around." Her weakness increased and two months before being admitted to the hospital she was obliged to remain constantly in bed. Two weeks before admission she experienced great pain in the rectum and Dr. Washington removed therefrom the left parietal bone of the fetus which she brought to the hospital. She had been obliged to take quite large doses of morphin at regular intervals during several months and was clearly a victim to it. She was greatly emaciated, suffered constant pain, and was extremely sensitive to pressure in the left iliac region. An examination revealed the presence of a firmly fixed tumor in the left side of the abdomen, extending from the vagina to the spleen. A finger in the vagina elicited a sense of crepitation in the mass so easily felt in the left broad ligament, slightly in front, which was thought to be a fetal skull.

An operation was performed March 10, 1898. The vaginal route for removal was rejected unless an abdominal exploration determined it to be the preferable one. When the abdomen was opened the dense mass was found to be lying behind the peritoneum, and an attempt to reach it by an incision through the extraperitoneal structures in the flank was made and abandoned, as too much dissection seemed necessary and the liability to open the peritoneal cavity too great. An attempt to stitch the peritoneum covering the sac to the edges of the abdominal incision resulted in failure, and it was decided to pack gauze about the abdominal incision and all around the point in the sac wall elected for its opening. The sac was then incised, and from it after long, tedious efforts, the skeleton of a fetus, one or two bones at a time, was detached and removed with a considerable quantity of fecal matter. No other parts of a fetus were found, and no evidence whatever of a placenta was detected. The head was found near the spleen and the relation of the bones with the wall of the sac rendered great care necessary to prevent puncturing the peritoneum. The skin and peritoneum of the edges of the abdominal incision were united with running catgut suture and the edges of the sac wall were in turn stitched to the edges of the abdominal opening. The cavity was then irrigated and packed with iodoform gauze around a rubber drainage-tube. Two quarts of standard salt solution was run into the abdominal cavity to be absorbed. The opening (or openings) between the sac and bowel was not found or searched for, and as was expected, the bowel movements

[1] Read at the Annual Meeting of the Virginia State Medical Society, held at Virginia Beach, Va., Aug. 30, 31, and Sept. 1, 1898.

came through the opening of the sac for nearly two weeks, after which time it began to come through the anus and the fistula to close. April 1st there was scarcely any fecal matter coming through the opening but quite a little pus. April 10th she was gaining rapidly, taking on flesh and color, and walking about the ward free from pain, although she had had no form of opium since the operation. She left the hospital for her home in May in better health than during the previous eight or nine years.

Extra-uterine pregnancy was not well known until the publication, in 1836, of Dezeimeris' classification, and remained a very vague subject up to the appearance, in 1876, of the classical work of John S. Parry of Philadelphia. After these came Tait's house-cleaning work of the pathology of this condition. This form of pregnancy had been occasionally noted, however, for nine hundred years. Many writers refer to Albucasis[1] as being the first to clearly report a case of ectopic pregnancy. He was an Arabian physician, living in Spain, where, about the middle of the Eleventh Century, he saw parts of a fetus escaping through the abdominal wall of a woman by the process of suppuration. During the Sixteenth Century, Platerus,[12] Horstius,[8] Polinus,[18] and Primerose[14] reported cases fairly well authenticated. Those of Nufer[11] and Christopher Bain[3], both classical and overlooked by many historical writers on this subject, occurred about this time. It is probable that Jacob Nufer did the first abdominal section for extra-uterine pregnancy though his operation is considered as the classical first case of Cæsarean section on the living woman. The report of it appears in the collection of Casper Bauhin, and is recorded in Von Siebold's "History of Obstetrics"[16] as follows:

"According to the relation of Casper Bauhin, in his appendix to the Latin translation of Fr. Rousset's writings upon Cæsarian section, Jacob Nufer, a swine-spayer at Sigerhausen, in Switzerland, in the year 1500, delivered his own wife by opening the abdomen and the operation proved successful for both mother and child. The woman was pregnant for the first time and when labor came on and she had already suffered severely for several days, there had gradually assembled at her bedside thirteen midwives and several lithotomists. But all of them together were unable to relieve the poor woman of her child or to mitigate her suffering. Thereupon the husband of the woman proposed to resort to the last means of saving her and assured her that if she would take his advice, he hoped by the blessing of God, to bring the case to a successful issue. She gave her full consent and Nufer persisted further in having the permission of the magistrate to his attempt. This, after some reluctance, was eventually obtained. Nufer next asked those of the midwives who had sufficient nerve for it to assist him in the delivery of his wife, while the more timid ones were requested to leave the room. Eleven of them chose the latter course while two of them and all of the lithotomists remained to assist. The husband first besought the help of the Almighty, then closed the door, laid his wife upon a table and made an incision in her abdomen in the same way he was accustomed in the swine. He opened the abdomen so cleverly at the first incision that the child was safely extracted. When the eleven midwives outside the door heard the baby cry they desired admission, but this was refused until the baby was washed and the wound closed as in the swine. It healed rapidly. She was later confined four times and bore twins. The child delivered by the operation lived seventy-seven years."

Forty years later, according to Donatus, Bain's abdominal operation was deliberately done for the removal of a long-retained fetus. It is described as follows: "In April, 1540, at Castrum Pomponii, commonly called Pomponischi, in the Province of the Lords of Gonzaga, not far from the river Po, there lived a woman whose name was Lodovica, but from her great size termed "La Cavalla." She had been pregnant and the fetus had died in the uterus, while the soft parts had sloughed through the vulva and the bony portions had been retained within her. She recovered and again became pregnant followed by rapid loss of flesh and was reduced to a condition of great danger. Christopher Bain, a traveling surgeon, happened by and offered to attempt to restore her for ten golden pieces if successful and her body if she died. She and her relatives were very poor and most of the money was raised by their good neighbors. The woman was tied up; he slowly cut through the abdominal wall including the peritoneum and at last opened the uterus and extracted the skeleton of a male child; he washed out the uterus with some warm wine and aromatics and after cauterizing the edges of the wound closed it with a suture. She recovered and in a short time had other children born in good condition. Later she had four in all. Witnesses: Dominus John Baptist Zorzonus and Alexander Begher, Dominus Frederick de Filini and Dominus Leonellus Zorzonus, and Antonius Maiochus or Mazzuchinus, and several others present at the whole operation."

This operation was probably for an ectopic gestation and was done fifty-four years before that of Primerose. About this time Platerus did his operation successfully (1594). In 1604, according to Webster,[19] the first case of tubal pregnancy was re-

ported by Riolanus, the younger, and the same author regards the first case of ovarian pregnancy reported to be that of Mercerus, in 1614. But of abdominal pregnancy the first good account was by Josephi,[9] in 1784, and the first clear description of interstitial pregnancy was by Dionis,[6] in 1718. To Madame Lefort belongs the credit of having first reported clearly, in the Eighteenth Century, a case of developed ovum between the layers of the broad ligament, a condition that in 1836 was called by Dezeimeris "Subperitoneo-pelvic" pregnancy. Lawson Tait's investigations led to the determination that practically all cases of extra-uterine pregnancy are originally tubal, becoming other varieties, often by escaping from the tube. His views on this subject are generally accepted by the profession. It is interesting to note that most early writers considered that the fetus had escaped from the uterus, and gave histories of injuries at some date during the pregnancy that had caused such extrusion. Altogether the study of these early cases is very enchanting.

The longest period I have found mentioned during which a fetus had been retained in the abdomen of its mother was fifty-seven years (Nebel's[10]). Sappey[16] reported 1 of fifty-six years, and I found 9 others of more than fifty years; 6 between forty and fifty years; 10 between thirty and forty years, and 43 between eight and thirty years, besides a considerable number in which autopsies on aged women revealed the presence of dead fetuses in various stages of decomposition, and without histories of pregnancies.

The condition of the fetus in ancient ectopic pregnancy is variable, being apparently but slightly dependent upon the length of time it had existed. Bayle[3] removed post-mortem from a woman's belly a fetus in good state of preservation that had been there twenty-six years, and Watkins[18] 1 forty-four years old that was loose in the abdomen and perfectly well-developed and preserved. *Per contra* many cases are found in which trouble has been caused by putrefaction, septic infection, sloughing into hollow viscera, or other depressing condition, within a very short time after the death of the fetus. It would seem that the duration of retention of an extra-uterine fetus of advanced development depends largely upon whether the conception product becomes infected. The limit of time during which these fetal cysts may remain in the abdomen unmolested has not been determined, inasmuch as in a number of the very oldest cases death was due to some entirely irrelevant cause. In about 76 per cent. of cases (Charpentier[5]) infection occurs and Nature attempts to eliminate the foreign material and is oftentimes successful, though in a large majority of them, if unaided by surgery, the women die of exhaustion as a result of pain, long profuse discharges, or sepsis. In the remainder, about 20 per cent., the fetus remains either in a fair state of preservation or is changed by fatty degeneration, absorption of the soft parts, calcification of the sac wall, or other metamorphosis. A true lithopedion of the fetus does not form. Elimination when attempted is, in about half the cases, into some portion of the bowel, nearly as often through the abdominal wall at some point, far less frequently through the bladder or vagina, and in one case[20] through the perineum.

Various authorities have insisted that nearly all cases of full-term ectopic gestation are intraperitoneal. This is not readily reconciled with the preponderance of evidence to prove that the absorption of a young ovum placed in the peritoneal cavity progresses rapidly. Taylor[17] and Webster agree that abdominal intraperitoneal gestation is uniformly fatal (unless removed by abdominal section), primarily by hemorrhage, secondarily by suppuration of the sac, and peritonitis. Of course the amount of hemorrhage may be so slight as to cause no alarm and is usually least when rupture is near the fimbriæ. Again, the fetus may escape in its unruptured membranes into the peritoneal cavity, the placenta preserving its attachment to the inner surface of the tube. Webster, Taylor, and others have recently published views directly antagonistic to this belief, and I believe that while it is possible to retain a fetus sufficiently long in the Fallopian tube for its arrival at such a stage of development that when suddenly expelled into the peritoneal cavity it will resist absorption, and that intraperitoneal pregnancy may occur without passing through the broad ligament, practically all full-term ectopic gestations are, or have been, broad-ligament pregnancies. Either the pregnancy develops and remains extraperitoneal, bulging either the anterior or the posterior fold of the broad ligament, or finally ruptures through the peritoneum into its cavity. The case herein reported, and one I previously recorded[4] were unquestionably extraperitoneal. Dunning's interesting case[7] was of this variety, and many of those reported during the past few centuries were clearly proven to be of this type. It is probable those old cases that opened into the bladder, vagina, or perineum, or into the bowel, as did the one herein detailed, were of this variety, and even some of those opening through the lower part of the abdominal wall may have dissected up the anterior layer of the peritoneum and escaped without ever having invaded the peritoneal cavity.

Another interesting feature of the case herein re-

ported is that while in possession of the old ectopic gestation the woman again became pregnant and was delivered of a living child after a very easy labor. This interesting condition has occurred in at least quite a large percentage of the cases I have studied and, even in a few instances, two different ectopic pregnancies have been found at the operation or autopsy. These were usually of different stages of development, but either of the same date and one becoming blighted first or altogether different as to age.

Parry and others of the early writers on the subject of full-term ectopic pregnancy have been opposed to surgical assistance except when the life of the woman was clearly in immediate danger. But that was before surgical invasion of the peritoneal cavity was so safe as it is now, and the views expressed have been gradually tending toward surgical relief as the routine treatment for this condition. The principal cause of death in abdominal section for these advanced cases is sepsis. It would seem that if the large majority are extraperitoneal, many of them would not require celiotomy. However, if a transperitoneal operation be necessary, then treatment of the sac by stitching it to the abdominal wall before opening it, or when not possible, afterward, would be the most approved plan of procedure when the sac cannot be enucleated. When much denudation of tissue in the pelvis results from cystectomy then drainage through the vaginal roof will be advisable. Although the operation may be performed in a thoroughly aseptic manner, if in these greatly weakened women a space is left in which accumulation of fluids may exude, one must expect its infection before its absorption occurs, and a considerable loss of life to result.

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A SINGLE TEST OF THE VIRULENCY OF SPUTUM KEPT MANY MONTHS.[1]

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THE virulence of tubercle bacilli, as demonstrated by the clinical pictures of pulmonary tuberculosis and the experimental results on animals, presents a very wide range for our consideration; the resistance of these germs against disinfectants is also known to be great, and, consequently, one may expect them to retain their power of infection for many months. Stone,[2] in 1891, reports an experiment in which tubercle bacilli retained their form and virulence for three years. The writer undertook a similar experiment, and with a result so different that he deems it worthy of being reported to this Society.

On February 18, 1896, six guinea-pigs were inoculated with sputum which was secured from an old chronic case of pulmonary tuberculosis with large cavities. Eight weeks later all the animals were killed. General tuberculosis of the glands and of the abdominal and thoracic organs was found in each pig. Large-mouthed bottles half full of sputum stopped with big corks were put away in a pasteboard box on the top shelf of a closet until July, 1897, seventeen months later. The contents when examined were still of fluid consistency, about half the original quantity, of dark-brown color, very little odor, and with considerable deposit. After thorough mixing of this sediment, 1½ c.c. was inoculated into the peritoneum of one and under the skin of a second guinea-pig. The former died in forty-eight hours from some septic poison; the latter lived thirty days, when it was killed. At the autopsy no glandular enlargement and no evidences of tuberculosis were found.

On the same day 2 c.c. of the sediment was mixed with 2 c.c. of sterile water and centrifuged for ten minutes. I thought thereby to obtain the bodies of the tubercle bacilli without the toxin apparently present in the fluid. To this deposit in the tube, after decanting the supernatant fluid, 2 c. c. of sterile water was again added, and equal parts of this was injected into the groins of two guinea-pigs. Twenty-eight days later both pigs were killed, and the autopsy gave a negative result. It should be noted that neither one of the pigs in

[1] Read at the Fifteenth Annual Meeting of the American Climatological Association.

[2] Stone, *Amer. Jour. of the Med. Sciences*, March, 1891.

the second experiment was at all sick after the inoculations; also, that the microscopic examination of the centrifuged sediment did not show any clearly outlined bodies of the tubercle bacilli, but fragmentary masses which retained the coloring matter, and were pronounced to be disintegrated tubercle bacilli by two other examiners in addition to the writer.

Having secured a negative result with this second experiment, one is justified in concluding that the tubercle bacilli in this case were no longer viable, and the following queries suggest themselves: Does sputum which remains in a liquid state for a long time develop toxins which are inimical to the life of tubercle bacilli? Would the result have been different had the sputum been more virulent in its character and taken from a case of acute active tuberculosis? If sputum dries more rapidly, does it retain its virulency longer? These can be answered only by further experimental work; and if the third query should be proven in the affirmative, it will be in accord with other experiments made with dust from rooms long since occupied by tubercular patients, and furnish an added reason for disinfecting and cleaning the habitations of such persons.

CLINICAL MEMORANDUM.

SOME ODD MALARIAL MANIFESTATIONS.

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THE atypical manifestations of malaria may present symptoms indicative of ill-defined perversion of the general health, or they may indicate perverse or defective function upon the part of some organ, simulating local disease of the same, and may or may not be accompanied by other symptoms, oftener due to and easier interpreted as malarial. These many different symptoms of malaria upon the part of organs apparently unrelated, either from an anatomic or physiologic standpoint, showing so little relationship to the common and expected types of malaria, are to my mind best explained by a defective or perverse innervation of function of the parts affected.

That the extraordinarily protean character of malaria is not better understood, odd cases not more readily diagnosed, especially by recent graduates in medicine, is to a large extent due to insufficient attention given this phase of the subject by teachers and authors. It may be that one reason for this is that our teachers and text-book writers mostly live in large cities where malaria is much less prevalent, and perhaps less protean, too, than in the country districts.

An examination of the blood for the plasmodium malariæ is an important, scientific, and advanced means of diagnosis, but obviously not always practical at the bedside, even if the physician has the requisite skill and inclination to make a microscopic examination; and if there is a scarcity of the organisms in the peripheral blood, as is frequently the case for the first few days, it would be a tardy diagnosis if one were to depend wholly upon this means. Again, if one is not suspecting and searching for a malarial origin in conditions which may be atypically malarial the necessity of a blood examination will not likely be appreciated. Considering how widespread and prevalent malaria is, what a large percentage of the average country practitioner's cases are malarial, at least in many parts of this country, I wonder that more attention is not given the subject. To elucidate what I have written I append histories of some of the cases I have seen, with one exception during the past year:

CASE I.—Female, housewife, aged twenty years; previous health good. Became suddenly ill, with all the usual symptoms of catarrhal dysentery presenting, and it was so diagnosed by the attending physician. After one week of treatment by the usual remedies, she being unimproved, I was called. I found her very weak, having very frequent stools, accompanied by tenesmus and composed principally of blood and mucus. Temperature 102° F.; pulse 102. No history of chill or any prominent remissions or an intermission of temperature. It seemed to be a typical case of catarrhal dysentery. Bearing in mind the possibility of malarial infection I questioned closely and the only evidence I was able to elicit which indicated malaria was a periodic exacerbation of the prevailing symptoms. This, together with the fact that malaria was prevalent in the neighborhood, and that I had previously seen somewhat similar cases undoubtedly due to malaria, led me to strongly suspect a malarial origin. I gave her quinin, with a resulting rapid disappearance of all symptoms.

CASE II.—Male, teacher, aged twenty-five years. Had a severe diarrhea accompanied by pain. Temperature and pulse normal. Slight nausea present but no vomiting. No history of dietary error; similar attack two days previously, same hour, lasted a few hours and completely subsided; during interval between attacks felt fairly well. This patient presented the usual symptoms of an ordinary diarrhea, the same being at the time more or less prevalent, and the physician who treated him for the first attack made this diagnosis and treated him accordingly. The element of periodicity manifest in the second attack, the fact that preceding the first attack there had been an initial period of malaise and ill-health, the most prominent symptom of which was "a tired, aching feeling in the bones, arms, and legs," and the absence of any symptoms or history of dietary or other cause led me to diagnose a malarial origin. Quinin relieved the patient and he suffered no subsequent return, as he would have done without an antimalarial agent.

CASE III.—Male, aged fifteen months; weaned; diet principally cow's milk. Severe diarrhea; had lasted three weeks. Temperature 102° F.; pulse 150. This patient, from a near-by city, was sent to the country upon the recommendation of his attending physician with the hope that the change would prove beneficial. The diagnosis of subacute milk infection had been made. By

close inquiry I learned that during the first few days of the fever the mother had noticed for several days at about the same hour, *cutis anserina*, and from this I inferred the temperature had perhaps intermitted during the first few days, but from the statement of the mother there had not been a subsequent intermission or prominent remission. After the first few days the patient presented similar symptoms as those present in the disease diagnosed and led the attending physician into error. Cases similar to the above are not uncommon, both as to symptoms and diagnosis. The only clue to malaria was shown in the first few days, and in this case, as well as in many others, the physician will not obtain a satisfactory history without much cross-questioning, always bearing in mind the possibility of malarial infection. This patient's fever, diarrhea, and accompanying symptoms disappeared under the administration of quinin in twenty-four hours.

CASE IV.—Female, aged thirty-eight years; housewife. Previous health good. Presented usual symptoms, objectively and subjectively, of ulcerative stomatitis. She was nursing her baby at the time, and told me she had "a nursing sore mouth." Concurring in her diagnosis I gave the usual treatment for a week or two, but without good results. Visiting me subsequently I questioned her more closely and learned that previous to her first visit she had had for several days vague and slight periodic manifestations of fever, the same having become more prominent since then. Recognizing a malarial cause or complication I gave her quinin, with the result that she speedily recovered. One year later she wrote me she was having the same trouble with her mouth, had tried several physicians without relief, and for me to send her some more of the same medicine, etc. I did so and she quickly recovered. The following fall she had a repetition of the same trouble and quinin again relieved her.

CASE V.—Female, servant, aged twenty years. Temperature and pulse normal; no history or symptoms of the ingestion of any food or drug likely to produce symptoms present. She presented the typical lesions of urticaria. For a short time she had complained of feeling tired, of aching in her bones, legs and arms, but otherwise did not have any indications of malaria. Quinin gave her complete relief in one day. This therapeutic test, coupled with the fact that I have seen at least twenty similar cases during the past year, most of them affording common and unmistakable evidences of malaria, each responding readily to quinin, in some instances after the failure of other treatment, absence of symptoms upon the part of the stomach, no history of the ingestion of any drug that might produce the disease, leads me to class this case as malarial, and my experience teaches me that in a malarious district nineteen cases out of twenty of urticaria are due to malarial infection.

CASE VI.—Female, housewife, aged fifty years; consulted me last September for a severe acute conjunctivitis, accompanied by an intense and constant supra-orbital pain. No temperature. The usual treatment not affording relief, the supra-orbital pain becoming subsequently periodically exacerbated, led me to try quinin in addition to the local treatment she was receiving and she speedily improved.

CASE VII.—Male, laborer, aged thirty-five years. Previous health good; no temperature; pulse normal. Consulted me for several small ulcers of two-months' duration upon the outer side of the middle third of his left leg. No history or evidences of syphilis or any diathetic condition. No causes or symptoms locally that would account for the ulcers. Previous treatment without results. Continuing the local treatment and giving quinin caused a marked and rapid recovery.

CASE VIII.—Male, farmer, aged thirty years. Previous health good; no family or personal history of rheumatism or neuralgia. Consulted me for a painful but not swollen knee. Had been under treatment for several weeks without relief. I learned there was a periodicity to the painful exacerbations, otherwise the history was negative as to malarial indications. Quinin promptly relieved and cured him.

CASE IX.—Male, coachman, aged twenty years. Temperature and pulse normal. Personal and family history excellent. Presented a typical case of Bell's palsy, of three-day's duration. There were no premonitory indications whatever, neither was there evidence or history to show any trauma or exposure to cold. There were not any ascertainable malarial symptoms previous to the attack of paralysis, but subsequently he had been having fever, so he said, the same coming on about 3 P.M. and being more pronounced the last day as compared to the two previous ones. Knowing that cases of paralysis had been reported as of malarial origin, I gave quinin, with the result that he was practically well in three days.

CASE X.—Male, school-boy, aged sixteen years. Temperature and pulse normal. Of previous good health and of good parentage. Consulted me for a paralysis of the extensor muscles of the right hand of two-weeks' duration. Previous treatment had been without results. There was no evidence or history of any traumatic cause. I treated him without benefit for about two weeks, then he developed a typical case of intermittent fever, and by further questioning I learned for the first time that previous to the paralysis he had had intermittent fever. Putting him on quinin he was greatly improved in three days and at the end of a week was well.

I am aware that some writers are skeptical as to the malarial origin claimed for some of the oddly manifested cases that have heretofore been reported, but in the above cases, with the exception of Case IV., a microscopic blood examination was made and, in each instance, some one or the other varieties of the malarial parasite was found, confirming the suspicion or diagnosis of a malarial origin. In several of the cases it was only after the examination of several specimens that the parasite was found. Some authorities have explained these oddly manifested cases as being complications of malaria and not directly due to malarial infection. If such is the case why do the complications respond so surely and readily to quinin, the complications in question being diseases that usually with the best of treatment require a much longer time to cure?

SPECIAL ARTICLE.

THE GARRISONING OF OUR TROPICAL ISLANDS.[1]

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AT the present moment there is probably no subject of more general interest than that which concerns the health and welfare of those who are to form our army of occupation in our newly acquired territories.

We have just had a sad and bitter experience. Here at home, within easy reach of everything necessary to health and comfort that science could suggest or money buy, widely separated camps have been devastated by most serious epidemics; while in Cuba, for which our troops are now embarking, an army of 18,000 men of magnificent courage and heroic action, has been utterly incapacitated by sickness, and forced to leave to others the field so gallantly won. It is not our purpose to criticise or to comment upon what is past; the readers of the MEDICAL NEWS have already formed an opinion, be it just or unjust, and we need not attempt to strengthen or to change it.

Now that our flag floats over Cuba, Porto Rico, Hawaii, and the Philippines all realize that large numbers of our soldiers must be sent to garrison these tropical and semitropical countries, and that their term of occupation must be an indefinite and perhaps a long one. The question that confronts us is: Must we look forward to the inevitable incapacitation of this large force by disease and death, or is it possible, with our present sanitary and scientific knowledge, for this army to carry on its important work in comparative safety and immunity?

Thanks to natural conditions and Spanish misgovernment and neglect, these countries are the endemic home of typhoid fever, of yellow fever, and of other deadly miasmatic infections. The streets and harbors of Havana and other cities reek with the filth of four centuries, and the labor of cleansing these and making them sanitarily safe will be more truly herculean than the purification of the Augean stables.

What Great Britain has been able to do in the way of reducing and banishing pestilence in her colonies of the Far East, and more especially in Jamaica, so similarly situated, and at one time as unhealthy as these new possessions of ours in the Carribean Sea, is a matter of history. England's experience and success certainly makes it more easy for us. Never have the laws of hygiene and sanitation been so well understood as now. Great strides are being made in improving the sanitary condition of all our large cities, and this same advance can be secured with more marked effect in the places to which reference has been made. The strict observance of a comparatively few simple but important rules and principles will almost certainly protect and preserve the health and lives of the great majority of our army of occupation during its sojourn in these foreign climes.

It is with the idea of formulating and outlining a systematic method of procedure looking to the sanitary care of all engaged that we have ventured to offer the following propositions. We must of necessity leave much of the detail to be filled in by others, but we hope to be able to present the main points in such a way as will awaken and unify the interests of our profession in the main subject. We shall consider later the climate and natural conditions of these tropical or semitropical countries, and inquire as to the extent to which they are responsible for the prevalent maladies.

As far as possible, every preparation should be made for the care and domiciling of our soldiers in these foreign lands even before their departure from home ports. In other words, their camps should be carefully selected, their barracks or quarters should be arranged for, and, whenever feasible, constructed of new materials and in accordance with the dictates of modern sanitation. An adequate water-supply should be provided, and every provision made for its thorough sterilization. Food, medicines, and supplies of all kinds for any emergency should be sent in abundance and in advance, that they may be on hand when the men arrive, and, in fine, everything should be done that the intelligence and unlimited resources of this country may justify.

In the meanwhile, we would offer the thought that the time between now and the departure of the several bodies of troops can be spent in no better way than in giving the men didactic and practical instruction in hygiene and sanitation. This may seem pedantic and pragmatical to some. But it must be remembered that our soldiers are intelligent and, for the most part, fairly well educated, and that, warned by the bitter experience of the past summer, they will be the more ready to observe and obey the orders which their reason commends. Many of them are members of our volunteer service, and many are more or less closely related to some of us. The writer's hospital experience with not a few of them from different States has convinced him that they represent at least something more than the average intelligence of the country. Why not, then, have definite instruction given by officers of the army medical staff, or even by competent persons outside of the military service, both by means of lectures and by practical experiments and demonstrations? Let it be explained to them in ways that they will realize and remember that most of the dangers from disease to which they will be exposed must come to them either in the air they breathe, the water they drink, or the food they eat; that the risks from the latter two can be avoided by exercising moderate prudence and care, and eliminated, with regard to the former, by good ventilation. Make it plain to them that the soil of these countries is the habitat of and is infected with miasmatic organisms, and that to sleep on the ground is to invite attacks of malaria and kindred fevers; and grind it into the very fiber of their mental and physical economy by making them live now as they must live then.

One soldier, to the writer's knowledge, went through

[1] The first of a series of articles relating to the preservation of the health of our army of occupation.

the Santiago campaign with few, if any symptoms of the almost universal fevers that wrecked that intrepid army corps. But, being previously informed, he took the precaution to boil every drop of water that he drank. How many more would have escaped as he did, and how many lives would have been saved, had all his comrades had the same foresight and knowledge, or had they been compelled to observe the same precaution? What better evidence of the advantages of hygienic forethought and sanitary care could we have than that afforded by the marines who were the first to land at Guantanamo, and for ten weeks were exposed to the same conditions as was the larger army within a few miles of them? How was it that their sick-rate did not exceed 2½ per cent. at any time when the larger force had 75 per cent. unfit for duty within four weeks, if it is not that they had proper food and drink, proper clothing, and proper attention? Do not these facts warrant the attempt to give every enlisted man better information in regard to sanitary matters?

Certainly some of those to which such instruction might be given would appreciate it, would try to utilize it, and would profit by it. By their example and evidence, they would also benefit their comrades. The possession of the "first-aid packets" of aseptic dressings, which were supplied to the troops, and the general knowledge of how to use them, certainly saved many lives in the late campaign. Now we must go one step further and teach the men how to guard against disease as well as against the injuries caused by the bullets of the enemy.

The importance of this instruction cannot be overestimated. It is a well-known fact that the Medical Department of the Spanish Army in Cuba was well officered and well administered. The medical records of their military hospitals are models of accuracy and bear evidence on their face of the competency and efficiency not only of the surgeons in charge, but also of their subordinates. The source of their appalling mortality can be traced to the fact that the Spanish soldier, officer and private, was young, reckless, and ignorant. Hygeia, to him, was an unknown goddess and sanitation a myth. Medical instructions and orders were regarded with indifference, and the inevitable results followed. The self-same conditions prevailed throughout our volunteer camps and were attended with similar results. The official orders of instruction issued by the Surgeon-General of the Army were model documents, clear, exhaustive, complete. But neither the privates, the junior officers, nor, it is to be feared, the commanding officers themselves, knew enough to take them seriously and enforce them.

It will undoubtedly be possible in the near future to garrison both Cuba and Porto Rico with American troops with comparatively small risk to the health and lives of those concerned. But it is also more than probable that such safety cannot, at the present juncture, be ensured, and that the conditions must be greatly altered before such a consummation may be attained. The report of the Sanitary Inspector of the United States Marine Hospital Service for Havana for the various weeks, beginning October 1st, states that while yellow fever does not exist to the same extent as it has existed during the past two years, the reason being that during the past eight or ten months but little material has been present on which the fever could feed, on the other hand, malarial fevers in fatal form exist to a marked extent, and enteric fever and enteritis furnish more than one-fifth of the total deaths. He also adds that "the city is even dirtier than ever, if such a thing could be possible."

Admitting that the yellow-fever season in Cuba is almost, if not quite, over at the present time, it is quite possible, indeed, more than probable, that large numbers of men, no more immune than are the majority of our troops, will develop the disease when exposed to the new and peculiar climatic conditions and environments. The lamented death of Colonel Waring also makes us realize that even the highest scientific ability and sanitary knowledge will not insure the medical improvements necessary without some costly sacrifices.

If the troops are to be sent to the cities, can a place where the annual death-rate, though even for a limited time only, is practically *seven* times that of New York or Philadelphia, be in its present condition a proper location for a garrison of American troops? Of course, Havana is not the whole of Cuba nor San Juan of Porto Rico, but it is in or near the large cities that some of the garrisons must first be located to maintain order and establish a permanent government. In confirmation of this, the orders of the Adjutant-General of November 4th, assigning the various corps and divisions to their respective stations, ordered them to hold themselves in readiness to proceed to Cuba, presumably upon short notice. Doubtless, there is full need for this early despatch of many soldiers to Cuba, especially to maintain order when the Spanish troops have been withdrawn.

The Secretary of War has recommended that the Cuban insurgents, in such numbers as may be secured, be enlisted in the United States service, and be officered by Americans. The idea is certainly a good one, and unless there are grave objections to it, which cannot now be foreseen, it should be tried. Many who would thus enter the service would doubtless eventually desire to remain therein, would the quicker learn the full meaning of the principles of our government, and continually tend to lessen the number of our own men needed on the island. England has maintained native West-Indian troops since 1795, and their service has always been, we believe, most satisfactory.

Though the duty of the country is plain before it, and it may not hesitate in its doing, it is also certain that, no matter how much has been gained by this war for humanitarian ends, humanity will not be patient with any management that unnecessarily sacrifices or even jeopardizes the lives or the health of the troops. When the transportation of the various detachments does occur, they may fairly expect to find awaiting them upon their arrival every reasonable preparation and accommodation that the greatest foresight and widest experience can suggest. There can and will be no condoning of any failure to make these provisions and preparations. Now that every one knows from recent experience just what the

dangers are, and that they are real and unexaggerated, the utmost care in the avoidance of them must be taken.

One phase of this great problem relates to the selection of the men who are to form the armies of occupation. The MEDICAL NEWS has already quoted General Lawton as saying that "the American troops are very discontented in Cuba and want to return home. In my mind, the time will never come when the American soldier will serve in Cuba contentedly." Practically the same story comes in the reports from far-off Manila, and, if we mistake not, from Porto Rico. Nostalgia or homesickness is something more than a matter of sentiment, and beyond the reach of the ordinary materia medica.

Consequently, since the going of the soldier to these countries is unavoidable, it becomes the more necessary that everything should be done to make his service and stay reasonably agreeable, and to lessen his discontent. It shall be our endeavor to discover and present in future articles how this may best be accomplished. The American soldier will be expected to undergo hardships when necessary, for that is part of his business and contract, and he would not be an American soldier if he did not. But he may also justly expect in return that the service shall not be needlessly disagreeable or disheartening. It will be remembered that when many of the volunteer regiments entered the Government service, the enlistment of married men and those who had families dependent upon them was discouraged. The thought suggests itself here, and will be more fully developed later, that it may be wise to eventually reverse this rule, and for the purpose of garrison duty to select married men as far as possible, and to send their families with them or to them as soon as provision for the latter can be made. This would cost something, but the results would justify the expenditure in that for many the greatest cause for discontent would be removed. Moreover, this would be a controlling influence in the prevention and regulation of venereal diseases of which we will have more to say hereafter.

MEDICAL PROGRESS.

Cyclic Vomiting.—WHITNEY (*Arc. Pediatrics*, November, 1898) describes a case of cyclic vomiting occurring in a boy eight and one-half years old. There were altogether six attacks, at intervals of almost exactly three months, without any ascertainable cause. Similar cases have been reported by other writers, some of whom have considered that the attacks were due to a uric-acid diathesis, and have treated the patients by salicylates or by some of the lithia waters. The symptoms have been thus described: A child, possibly delicate, but often in previously perfect health, after a prodromal period of twelve to twenty-four hours, is suddenly seized with vomiting. During the prodromal period the symptoms, which are not very pronounced, consist in lassitude, coated tongue, offensive breath, rings about the eyes, loss of appetite, and sometimes a sense of discomfort or distress in the epigastrium. The vomiting is of sudden onset, and often peculiarly severe and uncontrollable. It is excited by the slightest ingestion of food or drink, or it may be independent of either. At first, whatever food may be in the stomach is expelled, and afterward the vomitus consists of a moderate amount of strongly acid-watery mucus, very often streaked with blood. The latter is especially apt to follow the violent and painful retching which is usually present. This vomiting continues at longer or shorter intervals for from twelve hours to four or five days. There is usually a rise of temperature of two or three degrees at the outset, and a slightly lower fever continues until the cessation of the vomiting. Meanwhile, the general condition is often markedly affected, and there is usually a degree of prostration which seems out of proportion to the local manifestations. The abdomen is almost invariably retracted. With the abrupt cessation of the vomiting there is usually a rapid return of appetite and of the normal digestive processes.

The gastric crises occur at intervals varying from six weeks to six months. In any particular case the interval is likely to be always the same, and when the appointed time has elapsed the paroxysm is apt to come on in spite of the utmost care in the avoidance of unwholesome food and psychic disturbances. Indiscretion in these matters may bring on an attack at any time, although the child often enjoys good health in the interval. The real treatment is to strengthen the constitution by an active, out-of-door life.

Hot Air as a Hemostatic.—SCHNEIDER (*Beit. z. klin. Chirurg.*, vol. xxi, p. 805) finds that the ideal hemostatic for parenchymatous organs is one which will produce a thin crust all over the bleeding surface, closely resembling a normal blood-clot. The crusts produced by the point of a thermocautery are apt to stick to the hot iron and tear away from the organ when the point is withdrawn. Chemicals cause thrombosis. Compression with gauze is only occasionally satisfactory. He next tried steam, which had been highly commended by Snegirew. The apparatus was simple, and the results would have been good had it been possible to keep the steam at a high temperature at the point of exit. Unfortunately, he was unable to do this even with a slight pressure in the kettle, and if higher pressure was used the steam and hot water blew holes in the tissues. The surrounding parts had to be kept cool by gauze wet with cold salt solution, and there was considerable danger of producing shock. Finally, it failed entirely to control hemorrhage in divided muscles. He found hot air to work more satisfactorily. The apparatus for this was simple. A Bunsen-burner heated a coil of metal pipe, through which air was blown. It was not possible to have the pipe of exit from the heated coil to the wound more than a few inches long, else the air lost its heat so much as to be ineffectual. When it was working well, and air was escaping at 170° to 200° C. (338° to 392° F.), the current was directed upon the bleeding surface spirally, from the center to the circumference, and rapidly produced a light, tough crust, which could be washed without danger of recurrence of the hemorrhage. No shock accompanied this treatment, and it was proved by a thermometer placed one-fourth of an

inch under the bleeding surface that the temperature at that depth did not rise above 41° C. (106° F.) while the crust was forming, so there can be no question of deep injury of the tissues. The swelling of the organ and the tissues necessary for complete healing was less than when steam was employed. Thus far the method seems to promise much. There are still technical difficulties to be overcome, so that the lamp may be removed to a greater distance from the patient, say from eighteen to twenty-four inches. With this apparatus it was possible to keep up the heat at only half that distance.

Surgery of the Seminal Vesicles.—GUELLIOT (*Centralbl. f. Krank. Harn-und Sexual-Organe*, September, 1898) gives as indication for operative attacks upon the seminal vesicles, the occurrence of inflammation, stone, cancer, or tuberculosis. Old, inflamed vesicles with sclerosis of the surrounding tissues should not be extirpated. If, however, suppuration is present, and the pus, instead of flowing from the duct collects and threatens to break through into the peritoneum or into the perivesicular tissues the abscess should be opened from the perineum. Stones and cysts are not common. When present they should be removed through the perineum. Primary carcinoma of the seminal vesicles has never been operated upon as far as known. Tuberculosis, on the other hand, is the commonest cause of operation. The operative technic is as follows:

1. Lithotomy position with a catheter in the urethra.
2. Incision, concave backward, from the right ischiatic tuberosity to the left.
3. Separation of the urethra from the rectum.
4. Exposure of the levator ani and division of the same upon affected side.
5. Lifting of the anus with hooks and a speculum.
6. The prostate is drawn upward with forceps.
7. Blunt dissection of the prostate and seminal vesicles from the anterior wall of the rectum.
8. Removal of the affected seminal vesicle bit by bit.
9. Control of hemorrhage; suture of the deeper part of the wound; iodoform-gauze packing.

An Investigation of Stitch Abscesses.—TROLLER (*Beit. zur. klin. Chir.*, vol. 22, p. 441) has made a number of experiments in order to determine the cause of stitch abscesses, and the best means of avoiding them. He found that washing the skin with water sterilized it in about one-fifth of the cases; a single scrubbing with a disinfectant sterilized it in something more than one-fourth of the cases, while repeated scrubbings with disinfectants sterilized it in a little over one-half of the cases. In order to test the sterility of the sutures, he employed three kinds —aluminum-bronze wire, silk, and catgut. After a day or more the sutures were removed and tested bacteriologically. Separate tests were made for the portion of the suture embedded in the skin, and for that portion which was outside of the skin. Of eighty-four sutures which were examined in this manner, forty contained germs in their subcutaneous portion, as well as in their outer portion, and twenty-one others contained germs in the outer portion alone. That is to say, that seventy-three per cent. of the sutures contained germs in some portion. As was to have been expected, the results were better when the skin had been repeatedly scrubbed with disinfectants than when only a single cleansing had been carried out. Furthermore, the results with aluminum-bronze were far better than with silk or catgut, nearly three times better than silk, and more than three times better than catgut. The superiority of the wire was due apparently to its impermeability and smoothness. Tests were, therefore, made with silkworm-gut and with a silk made impermeable by gutta-percha. The results with these materials, while better than those obtained with silk and gut, were still inferior to those obtained with wire. Troller was, therefore, of the opinion that the wire possessed an antiseptic action, a view which has been held by other investigators. The bacterium usually found was the white staphylococcus, less often the streptococcus or some bacillus, rarely the yellow staphylococcus. The great majority of germs seemed to come from the skin itself, being either carried in from the surface by the eye of the needle, or following down the track of the suture afterward. In more than one-half of the instances in which the subcutaneous part of the suture contained germs, a visible stitch infection resulted. This was especially true of the catgut and silk sutures.

Albuminuria and Casts Due to Constipation.—KOBLER (*Wien. med. Blatter*, September 1, 1898) speaks of the albuminuria which occurs in connection with cholera. While investigating a case of chronic diarrhea in order to see if the casts were present under those conditions as well as in cholera, he observed that in the periods of constipation which alternated with the diarrhea, the albumin and casts were much increased. Later, he examined a number of patients suffering from some intestinal affection marked by obstipation, and in a number of instances he found that albumin and casts appeared during periods of constipation, and disappeared or became much less when the constipation was relieved. All of these patients suffered considerable pain, and Kobler is inclined to think that there was some causal relation between the two, especially as the pain increased and diminished at the same time as the albumin and casts.

THERAPEUTIC NOTES.

Properties of Podophyllin.—MACKENZIE and DIXON (*Edin. Med. Jour.*, November, 1898) have conducted an investigation into the powers of podophyllin, and find that the active principles contained in the crude resin are two substances, (*a*) crystalline podophyllotoxin, (*b*) podophylloresin, both of which act as excellent laxatives in small doses, without secondary constipation or other objectionable symptoms. Although both these substances act very similarly on the alimentary tract, it is only the podophylloresin which exerts a true cholagogue effect, which shows itself rather by a large increase of the solids secreted than by an increased quantity. Both exert their specific activity when injected hypodermically in alcoholic solution, but in man so much irritation is produced as to forbid their employment in this manner.

The physician should know whether he is prescribing the Indian or the American product, as the former is more than twice as powerful as the latter. The cholagogue effect of podophyllin has been estimated to be greater than that of any known substance.

Treatment of Erysipelas. — WINTER (*Maryland Med. Jour.*, September 10, 1898) says that so-called idiopathic erysipelas is almost always traumatic in character, usually having its origin in some excoriation about the nose or face. Such an attack is usually preceded by sore throat, thus indicating that the germs may find their entrance in this situation. The first treatment should be to induce free action of the bowels, kidneys, and skin. Calomel or some other mercurial purgative, or compound jalap powder should be given and repeated in twelve hours if necessary. For diaphoretic and diuretic purposes the following dose should be given in a wine glass of water and repeated every hour or two as is necessary:

℞	Tr. aconiti rad.	*m.*i—ij
	Spts. etheris nitr. . . .	*m.* xv
	Liq. ammonii acetat. . . q.s.ad.	ʒ ij.

A host of remedies have been suggested for local treatment. Carron oil often gives relief. It becomes offensive in a short time, however, and for this reason cotton-seed oil is better than linseed oil. Spirits of turpintine will stop the intolerable burning in a few minutes. In using this medicine locally, a good plan is to dip a piece of flannel in hot water and squeeze it as dry as possible, and then dip it in the turpentine and wring it again, and apply it to the erysipelatous surface for fifteen minutes or longer, according to the sensitiveness of the patient's skin. Ichthyol either in the form of collodion or mixed with vaselin may also be employed. Most patients will require a tonic, such as the tincture of the chlorid of iron, 20 to 40 drops every 2 to 4 hours. The disease is often associated with gastric disturbances so that the diet and stimulants ought to be under the immediate supervision of the physician.

Metatarsalgia and Its Treatment.—JONES and TUBBY (*Annals of Surg.*, September, 1898) do not agree altogether with Morton's theories of metatarsalgia. They attribute the pain which occurs when the fourth metatarsal bone drops out of the arch to pressure upon some nerve between the head of this bone and the skin, and not as Morton claimed to pressure produced upon the plantar digital nerves by their becoming caught between the head of the depressed bone and the adjoining bones. Collapse of the anterior arch, they say, would render the nerve less liable to compression in this situation. Moreover, in many cases, a firm grasp around the foot which raises the arch will relieve the pain. Flexion of the toes will also accomplish the same thing, this, too, raising the heads of the metatarsal bones. Manipulations of the foot other than direct local pressure rarely increase the pain. A callous spot is often found over the head of the depressed bone showing that pressure at this point is considerable. They, therefore, consider that the important factors are: (*a*) The proximity to the painful area of the communicating branch of the superficial division of the internal plantar; (*b*) the collapse of the anterior arch in most of the cases, and (*c*) the fact that the bulk of superincumbent body weight in walking on the toes is borne on the first and fourth toes.

The treatment which is recommended varies according to the degree of the trouble. If the difficulty is slight the treatment is largely preventive and consists in raising the inner aspect of the sole and heel, and wearing thick-soled boots so as to avoid pressure upon the painful spot. These should be made so as to give plenty of room about the metatarsals, while fitting snugly around the instep. Some patients obtain relief by putting a little pad of cotton, or India rubber, or cork inside the shoe just behind the head of the metatarsal bone. If the trouble is more severe, in addition to the measures recommended it is desirable to wear a firm leather band about the instep, which can be laced up so as to give the required support. Baths of hot and cold water, oleates of belladonna and morphin, and massage are useful. If the pain is very acute it is desirable that the patient remain in bed for two or three weeks to give the neuritis time to subside. If the nerve has become chronically inflamed it will be necessary to remove the head of the metatarsal bone. Other measures, such as resection of the nerve, use of the cautery, injections of carbolic acid, etc., are unsatisfactory. The head of the bone should be removed through a dorsal incision, and the patient should refrain from walking until the scar is firm.

Carbonic-acid Gas for Local Anesthesia. — BULLITT (*N. Carolina Med. Jour.*, September 20, 1898) has experimented with carbonic-acid gas as a means of producing local anesthesia. The gas is contained in a storage-drum under a high pressure, 1000 pounds or more. By its expansion when it is allowed to escape intense cold is produced. This is one of the methods of manufacturing ice. In order to produce local anesthesia the gas is allowed to escape through a small brass pipe to the end of which is fixed a fine hollow needle. If this is directed toward the skin a white spot is immediately produced just as when ethylchlorid is used. Ethylchlorid is very expensive, while the carbonic-acid gas costs but little, and the apparatus to contain it can easily be manufactured for three or four dollars.

For Lupus Vulgaris.—KACZANOWKI of St. Petersburg reports complete cures from applications of potassium permanganate which has a potent caustic action on granulation tissue. If there be crusts these are first removed in the usual manner by oil, etc. The affected area is then covered by a layer (2 to 5 millimeters thick) of the finely pulverized drug. If near the eye or nose these must be protected by a pad of cotton and a nasal plug which are removed on the following day when the secretion will have formed a crust with the permanganate. Absorbent cotton and a bandage complete the dressing. The one application destroys the granulations; the eschar comes off in about two weeks and cicatrization proceeds under simple antiseptic dressings, or an ointment containing nitrate of silver may be used to hasten the process. The treatment is painful but bearable.

THE MEDICAL NEWS.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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Address the Editor: J. RIDDLE GOFFE, M.D.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK.

Subscription Price, including postage in U. S. and Canada.

PER ANNUM IN ADVANCE $4.00
SINGLE COPIES 10
WITH THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, PER ANNUM 7.50

Subscriptions may begin at any date. The safest mode of remittance is by bank check or postal money order, drawn to the order of the undersigned. When neither is accessible, remittances may be made, at the risk of the publishers, by forwarding in *registered* letters.

LEA BROTHERS & CO.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK,
AND NOS. 706, 708 & 710 SANSOM ST., PHILADELPHIA.

SATURDAY, DECEMBER 17, 1898.

THE GARRISONING OF OUR TROPICAL POSSESSIONS.

IN this week's issue of the NEWS we begin a series of articles on the above subject. The topic will be extended to cover not only the discussion of proper provision for our soldiers who are to be stationed permanently in these tropical islands, but will also include a discussion of the general sanitary measures that are necessary to make them healthful not only to the native population, but also to the large immigration of our own citizens who will doubtless seek these fields, so inviting for new and great financial enterprises. The series will be introduced by several articles trom the pen of Dr. Seneca Egbert, Professor of Hygiene and Sanitation in the Medico-Chirurgical College of Philadelphia, and the author of a work upon that subject. These will be followed by five articles having special reference to Puerto Rico by Dr. Azel Ames. Dr. Ames has already had experience in this island as general inspector of sanitation, and now goes there permanently as the Chief Medical Officer on the staff of General Henry, Military Governor of the island. The succeeding articles and their authors will be announced in due time.

THE PRESIDENT'S MESSAGE AND ITS MEDICAL SUGGESTIONS.

PRESIDENT MCKINLEY'S message to Congress contains the following significant words: "The sanitary problems connected with our new relations with the islands of Cuba and the acquisition of Puerto Rico are no less important than those relating to commerce, finance, and administration."

This assertion is at once a fitting acknowledgment of what sanitary science has accomplished in the past, and a quarantee that its sway shall be still further extended in the future. It is worthy of note that in a presidential message that is concerned with more important matters of state than have been discussed in a message for thirty years, a place should be found for questions of sanitation. It is an index of the prominent place that matters of public health have acquired in this last half of the century. We welcome it also as a just tribute to the unselfish work of the medical profession, which has made questions of sanitation so prominent by demonstrating that the prophylaxis of disease rests exclusively upon it.

The President renews his recommendation that provision be made for a commission of experts to study the situation and advise as to the best means of applying whatever the most recent advances in science can suggest for the protection of the health of our soldiers and citizens; security against the constant menace from the importation of yellow fever, under which our home country suffers will also have the attention of this commission. This suggestion is of course a most timely one and will, we feel sure, be acted upon at once. It is unfortunate, however, that circumstances are such that so important and pressing a matter should be compelled to undergo the delay necessitated by a special appropriation. There should be, there must be established soon, a national Bureau of Health to which, when such serious sanitary problems arise, the Executive may turn as naturally as he now turns to the head of the Treasury Department for the management of questions of finance. The need for such a medical department is constantly becoming more and more clear. Meantime, the Marine Hospital, as far as its powers can be made to extend, has done excellent work in these national sanitary questions. It is to be hoped that at this conjuncture too, its services will be employed as far as possible. For what-

ever tends to put the great problems of national sanitation into the hands of a regularly established bureau of health must be welcomed as an advance in the right direction, as a step toward what must inevitably come, a national department of public health.

HIGH BUILDINGS AND HEALTH.

The recent fire in one of the so-called "sky-scrapers" in the lower part of New York City again sharply directs public attention to the menace to life and property inherent in such lofty structures. With the utter inability of the present fire-department facilities to cope with a fire in these high buildings, or the fallacy of thinking that any so-called fire-proof building is really fire-proof, we have nothing to do. The holocaust of human lives that will some time, in the not distant future, be offered to the god of Mammon and the goddess of Negligentia, before whom municipal authorities, it is said, in this country at least are prostrate in perpetual adoration, concerns us much more nearly, but is not to our present purpose.

If the modern science of hygiene has demonstrated anything it is, surely, that sunlight is Nature's great bactericide. Six hours of exposure to direct sunlight will infallibly kill bacteria even as resistent as the tubercle bacilli. It is evident that in the past the preservation of humanity from even more prevalent disease than that from which it suffered, has been due to the pervasive influence of sunlight and its wonderful powers as a germicide. If the present tendency to erect high buildings on narrow streets is allowed to continue it will not be many years before the amount and duration of the sunlight capable of entering their lower floors and those of neighboring buildings will count for nothing. A greatly increased morbidity from zymotic disease among those compelled to work long hours in the rayless apartments of these structures where the sun practically never penetrates must therefore inevitably follow.

We venture to say that, even at present, respiratory diseases such as pneumonia and tuberculosis are far commoner among the workers on the ground floors shaded by such buildings than under normal conditions of air and sunlight. There is great danger ahead in this matter. The penalty for the capitalist's greed and the municipality's neglect will fall upon the unconscious and innocent employees. With the amount of territory at present in Greater New York there should not be the slightest necessity for these lofty towers. Let there be a limit to the building heighth then, and let that limit have such a relation to the width of the street on which the buildings are situated that ample sunlight, the God-given preserver of health, shall be secured.

THE SIX-DAY BICYCLE RACE.

Thanks to the careful attention given the matter by the Board of Health, this year's six-day bicycle race has come to a close without practically any of the extremely objectionable features, so manifest at previous contests, coming to the public notice. There were, we understand, on certain occasions quarrels between the contestants and their trainers, a lurking suspicion of persecution, and some complaints that food and drink were being tampered with. In a word, there were present the phenomena which inevitably supervene on brain anemia and the disturbed metabolism of nervous tissue incident to overwork, underfeeding, and the presence in the circulation of an overplus of the products of muscular exertion. The brain anemia seems to have been the prominent feature and the one most easily diagnosed. It was usually the direct result of incipient heart failure, and the men were compelled by the Health Authorities to abandoned the contest as soon as unmistakable and progressive symptoms of this condition became manifest, provided they did not yield promptly to judicious stimulation.

The very significant question presents itself, however, is it worth while that a certain amount of the energies of the Health Department of a great city like New York, where so many sanitary evils are crying out for correction, should be devoted to making an ill-advised six-day bicycle race less objectionable in the public eye? It is a mere money-making exhibit that carries with it great and manifold evils and does absolutely nothing for the healthful sport of bicycling. It has been condemned utterly by the best authorities on these matters.

There yet remains a number of features that make its repetition another year extremely inadvisable. It is the refinement of cruelty to allow human beings to work themselves into the state of haggard exhaustion that was so visible on the faces of the contest-

ants during the last days of the race. The rewards offered, the cheers and interest of the unthinking crowds, and finally the plentiful employment of the strongest known medical stimulants were utilized to arouse in the riders the willpower necessary to enable them to go on notwithstanding their pitiful physical exhaustion. We would not hesitate a moment to pronounce it unjustifiable cruelty if analogous means were employed to make animals do the same thing. The spectacle is anything but an elevating one, and the effect on the crowds who flocked to see it was undoubtedly degrading. Since there is no good reason for its occurrence, except the pecuniary interest of the managers, an enlightened public sentiment should be at once aroused to prevent its further repetition.

AN ANARCHIST'S SENTENCE.

LUCCHENI, the Italian anarchist, who murdered the Empress of Austria last summer in Switzerland, has been sentenced to penal servitude for life. The laws of the Swiss canton in which the crime was committed do not permit capital punishment or doubtless the death penaly would have been decreed. Public opinion would have demanded it. It is far better as it is, for surely no one with any clinical experience in mental diseases can doubt for a moment that the active agent in this extremely deplorable affair is not entirely responsible for his deed. The usual argument of those who insist on the severest possible punishment in these cases is that it will act as a deterrent upon the mentally unbalanced and keep them from putting any insane notion of theirs into action. Experience seems to show that exactly the opposite is the case. To take cranks seriously, to glorify their actions by solemn legal punishment, is in their eyes to make heroes and martyrs of them. Such action encourages rather than discourages imitation. The bathos of committal to an insane-asylum is the best deterrent. To deny their inspiration and their heroism before the world and attribute their action to its true cause, mental disequillibration, is the one thing above all that "cranks" dread; it brings would-be imitators to their senses better than any supposed punishment.

Medical opinion has advanced greatly since the death-penalty was exacted in Guiteau's case in response to the demand for a victim upon whom to wreak vengence. It is clear to our minds that if that trial were to be held at the present time the death-sentence would be the signal for strenuous protest on the part of those members of the medical profession best fitted by their experience to judge in the matter. The advance in medical opinion along these lines is noteworthy. It speaks well for that larger sympathy with mentally deficient or unbalanced humanity that began just a century ago, when Pinel, amidst the breathless suspense of all Paris which wondered what the result would be and portended untold evil, knocked the chains and gyves off the poor maltreated insane inmates of Bicêtre.

The profession and the public are learning to realize that the active agent in many a tragedy is much more to be pitied than to be blamed. Let us hope too that sad experience has taught us the necessity for precautions in those cases in which threats have been uttered. If our larger knowledge but lead to the prevention of these sad tragedies by the suggestion of effective precautions, even to confinement in an asylum, then indeed will the growth of our knowledge in mental diseases be doubly blessed in the humanitarian purposes it will serve.

BRAIN WEIGHT AND INTELLECTUAL CAPACITY.

A BELIEF in phrenology is by no means uncommon among the laity and we are sorry to say that even orthodox members of the profession sometimes show strange leanings toward a modified acceptance at least of the old doctrines on this subject. The conviction, however, that there is a direct ratio between brain weight and intellectual capacity is very widespread among the profession and thinking people generally. A very interesting article by Dr. Joseph Simms in the December number of the *Popular Science Monthly* disposes effectually of any foundation for such a doctrine. The heaviest brain on record, though the case is not well authenticated, was that of a London newsboy who was somewhat idiotic. Its weight was 80 ounces. The brain of Rustan, an ignorant undeveloped Scandinavian peasant, weighed 78.3 ounces, that of a dwarf Indian squaw 73.5 ounces. The heaviest brain among great men was Turgenieff's, the Russian novelist, which weighed 71 ounces. After him comes the distinguished Scotch physician, Dr. Abercrombie whose brain weighed 63 ounces, then General Aber-

crombie and our own General Ben Butler with 62-ounce brains.

The average weight of the human brain varies according to various authorities from the estimate of Austin Flint, who said 50.2 ounces, to that of Professor Krause, the anthropologist of Berlin, who said 55.4 ounces. Considerably below this average in brain weight were such distinguished men as Huber, the philosopher, Grotius the great commentator, Liebig the chemist, Babbage the well-known mathematician and inventor of the calculating-machine, Bishop the mind-reader, and finally, most notable of all, Gambetta the distinguished French statesman, whose brain weighed but 40.9 ounces. Gambetta died from a pistol shot, so that no lingering premortal process drained the normal brain substance of its nutrition. These figures, therefore, show the actual weight of his brain as it was in life.

The average weight of the brains of 60 famous men was 51.3 ounces, that of 10 idiots and 5 imbeciles that are on record, 59.2, a difference of 7.9 ounces in favor of the weak-minded. The explanation so often advanced for increased difficulty of parturition in our time, that with intellectual development the race is acquiring a larger skull, would seem according to Dr. Simms' data to be the theoretic evolution of some advanced obstetrician's inner consciousness. The skulls found in the Indian mounds are larger than the present average skull; those found at Pompeii are larger than the average Neapolitan's of today. May we dare hope that there will be no more theorizing on these two much "be-theoried" subjects without due regard to the facts?

LIFE INSURANCE FOR DAMAGED LIVES.

THE President of the New York County Medical Society in his recent inaugural address touched on a matter of extreme interest to physicians in general, the question of insuring damaged, or as they call them in insurance parlance, "substandard" lives, *i. e.*, persons whose health is in some way impaired and who would not under ordinary circumstances be accepted as risks by life-insurance companies. It has long seemed to thinking medical men that a field for the extension of insurance benefits without loss to the company existed in this direction. This discussion of the subject, therefore, is cordially welcomed because it comes quasi officially and is an index of present tendencies in life-insurance circles.

Medical men have long felt that among those rejected by insurance companies there are a number of people who constitute good risks and whose expectancy of life is not below the average, people with tubercular family histories yet healthy themselves, or with the personal history of some phthisical manifestations years ago but now in good health. Not a few of them are affected with a slight heart lesion, often with only a heart murmur (it is sometimes forgotten that the terms are not identical in meaning) but with never a symptom of disturbed compensation, or with an albuminuria without casts or some of the other not clearly significant manifestations for which insurance companies deem it wise to reject applicants.

Most medical men, too, have been of the opinion that the present system was unfair in certain ways. Actuary statistics of the expectancy of life of the whole population, are, we believe, used to determine premium rates, while policies are issued only on the select lives that have no defects and whose expectancy of life, therefore, at any given age is considerably greater than the average. It has even been said that the present profits of the life-insurance business and its ability to pay magnificent salaries was due to this fact. We are glad to think that this opprobrium, if it has any real basis in fact, is about to be removed.

From a purely medical standpoint we welcome the heralded innovation for two reasons. The consciousness of a provision for their families will be a remarkably steadying therapeutic agent for certain nervous patients whose neurotic symptoms manifested in functional heart murmur, or cyclic albuminuria, have in the past led to their rejection by insurance companies to the no small detriment of their state of mind and health. The second medical advantage certain to accrue from it is that the careful study of these damaged lives will build up scientifically the precious study of prognosis, so important in itself, so much studied by our medical forbears, but advance in which has not kept pace with the progress in other departments of clinical medicine.

MALARIAL NEPHRITIS.

THE careful study which, since the discovery of the malarial parasite, has been devoted to malarial

infections and their complications, has practically laid the basis for a scientific knowledge of the disease. Despite all the work done much remains to be accomplished. During the last year or two, exclusive of the contributions to our knowledge of the life history of the parasite, the most interesting progress has been made in the line of the pathologic changes induced in the kidneys by the elimination of the toxic products of the disease.

Hirsch, the great medical geographer, relying on the statement, supported as it seemed to be by statistics, that Bright's disease was not common in India or Brazil though malaria was there endemic, expressed the opinion that there is no etiologic connection between malaria and nephritis. Further study, however, has shown that this opinion is not entirely true.

Malarial nephritis has been found to be much more frequent than was formerly thought. As usually happens in medical matters, however, the pendulum of medical opinion swung a little too far. Exaggeration of the frequency and seriousness of nephritis complicating malaria took the place of former failure to recognize it. Albuminuria during malaria has been so commonly found when carefully looked for that the conclusion has very naturally been entertained that actual kidney lesions must be frequent. Two recent thoroughly conservative reviews of the question do not support this conclusion. One of them is Dr. Thayer's article on "Nephritis of Malarial Origin," in the November and December numbers of the *American Journal of the Medical Sciences*. It must be considered as expressing the views of the Johns Hopkins School in the matter; and of late years it is to the latter that the profession in this country has learned to look for the best scientific opinions on malarial questions. The other discussion of malarial nephritis is from the Roman School, by Dr. Giacamo Rem-Picci in *Policlinico*.

Dr. Thayer notes the finding of albuminuria in malarial fevers in 46.4 per cent. of the cases treated at Johns Hopkins. Acute nephritis occurred in only 1.7 per cent. It is interesting to note how much severer on the renal functions and apparently also on the kidneys themselves is the effect of that type of malaria which is at present receiving so much attention, the estivo-autumnal form. Of the cases infected with this form of the malarial parasite albuminuria occurred in 58.3 per cent.; acute nephritis occurred in 4.7 per cent. of the cases treated in the wards, the severer infections, and in 2.3 per cent. of all the cases seen.

Dr. Rem-Picci, at Rome, has been very careful to exclude all cases except those in which the albuminuria was observed to set in during the malarial infection. There are so many other possible sources of kidney irritation that he very properly considers that care in this matter is most necessary. He has evidently excluded all cases too, in which only traces of albumin were observed, for he has found albuminuria in only 6 per cent. of the cases. In more than 7000 cases of malaria in the hospitals of Santo Spirito and San Giovanni, at Rome, he has found acute nephritis in 80 patients, just about 1.1 per cent. It is very interesting to note that these figures agree almost exactly with Dr. Thayer's, for among white patients, as we note farther on, he found acute malarial nephritis in 1.1 per cent. of his cases. He does not attribute the nephritis so much to the malarial parasite itself or any toxins secreted by it as to the toxic influence of the unusual metabolic products that arise from altered physical conditions during the attacks and which must be eliminated afterward. This is based upon the findings of Bacelli, who has shown that after a "chill" there is an increase in the specific gravity of the urine, and certain products of abnormal tissue-metabolism are demonstrable in it. Dr. Rem-Picci considers that in healthy individuals with normal kidneys this will not cause nephritis though it does in the less resistive. A curious confirmation of this opinion seems to be found in Dr. Thayer's observation, that while nephritis occurred in white patients in only 1.1 per cent. of the cases of malaria, it occurred in negroes in 7.3 per cent., "figures," he adds, "which are quite in keeping with the clinical fact often noted at Johns Hopkins, *viz.*, that the colored race is much more susceptible to renal disease than the whites."

On the whole acute nephritis cannot, as a rule, be attributed directly to the presence of the malarial parasite, and the question of chronic nephritis is so involved with other factors that scarcely more than the suspicion of the causal relation of malaria to it can at present be entertained.

At Rome medical men are perfectly outspoken in advocating the use of quinin in malaria, even in the cases complicated by nephritis. A recent editorial opinion in the *Journal of the American Medical Association*, based absolutely, so far as we can see, on no good or convincing reason, is calculated to do much harm. The journal advises against quinin. On the contrary, at Rome, where the profession has unusual opportunities for studying this malady, quinin, in all cases, is invariably considered indispensable. Cases are on record in which albuminuria and hemoglobinuria have increased when quinin was for a time withheld and later have diminished and finally disappeared with the malaria when the quinin treatment was energetically pushed.

ECHOES AND NEWS.

St. John's Guild of New York.—By the recent gift of $32,000 this Guild is enabled to construct another floating hospital for the benefit of the children of the sick poor. It will be ready for use next summer.

Major Booth Resigns.—Major Burton S. Booth, Surgeon of the 203d New York Volunteers, has resigned his commission in the army and returned to his home in Troy, N. Y., where he will resume his practice.

Dr. Sanger Brown—A Correction.—Attention has been called to the statement made in the last issue of the MEDICAL NEWS regarding Dr. Brown's resignation from the faculty of Rush Medical College, Chicago. The chair which he formerly held, and from which he resigned, was that of Medical Jurisprudence and Hygiene.

A Case of Lacerated Spleen.—A helper in the Bellevue Hospital Medical College died recently in the hospital of a disease which the physicians had not been able to diagnose during his two-month's sickness. Dr. Herman M. Biggs performed an autopsy, and discovered that the chief cause of death was a laceration of the spleen; cause of the latter unknown.

The Sick and Dead at Manila.—During the last week there were reported 1991 sick at Manila, against 1922 during the preceding week. The deaths were: From typhoid fever, 1; dysentery, 3; melancholia, 1; suicide, 1; and smallpox, 3. A convalescent hospital is about to be established on Corregidor Island, in charge of Major Owen. It will contain 100 beds.

Typhoid from Bad Milk.—There is an outbreak of typhoid fever in an uptown district of New York City bounded by Mott and Walton avenues and 138th and 152d streets. There are seventeen cases in the district, and all but four of them arose from infected milk sold by a grocer in the neighborhood; the rest, it is said, are cases of men who brought the disease from some of the army camps.

"Dr. Therne," by H. Rider Haggard.—Under the above title this popular author has just published a book dedicated to the Jenner Society in which he sets forth in characteristic style the lamentable consequences which he foresees must follow the recent antivaccination legislation in England. The humiliation and shame which overtake "Dr. Therne," who has deserted his principles and gone over to the antivaccinationists, are depicted with tragic force in the closing chapter.

Obituary: Salmon P. Cahen, M.D.—The Medical Board of the West Side German Dispensary of New York and the faculty of the New York School of Clinical Medicine, at a joint meeting, recently adopted resolutions upon the death of their colleague, Salmon P. Cahen, M.D., former secretary of the medical board, expressing appreciation of his nobility of character, his scientific attainments, and his devotion to the sick poor. It was resolved that his death was to them an irreparable loss.

"The Medical Age" and Osteopathy.—For some time it has been thought by the parties interested and by their friends that the suit begun by an osteopath against the editor of *The Medical Age* was only a bluff and an advertising ruse, especially as the plaintiff failed to provide security for the costs of the action. It appears, however, that the security has finally been given and that the case will shortly come up for trial. We bespeak for the defendant the sympathy of the entire medical profession of the country and shall watch the progress of the case with no little interest.

The New York German Medical Society.—Die Deutsche Medicinische Gesellschaft celebrated its thirty-eighth anniversary with a banquet at the Arion Hall, Saturday evening, December 10th. Dr. Abraham Jacobi presided most felicitously as toastmaster, and by his happy presentation of the toasts called forth most spirited and interesting responses. An interesting feature of the occasion, and somewhat unusual at medical society meetings, was the presence of the doctors' wives who lent a charm and grace to the occasion, especially in the social features which followed the banquet.

The New Jersey Sanitary Association.—The twenty-fourth annual meeting of this society was held at Lakewood, December 9th and 10th. The president, Vernon L. Davey, superintendent of the East Orange public schools, gave an address on "The Relation of the Schools to the Health of the Community." "It is coming to be felt by practical educators," said Mr. Davey, "that there should be some sort of supervision of the physical side of the pupil—not merely in the way of giving a few minutes daily to light calisthenics, but in securing a frequent, professional observation of the pupil's physical condition."

Solvent Action of Water on Metals.—Robert Meldrum in a recent number of the *Chemical News* reviews the generally accepted opinions as to the solvent action of water upon copper and lead vessels and pipes, and details some personal experiments. It confirms the opinion that a "soft" water dissolves much more lead than a "hard"

water. A slight amount of carbonic acid does not add to the solvent action of the water but the presence of large amounts of CO_2 causes the water to take up lead in considerable amounts. The importance of this fact in connection with the tubes and fittings of so-called "soda-water" apparatus is evident.

Suicides in Italy.—Suicides in Italy during the year 1896 show an increase of fifty per cent. over the ten preceding years. The total reaches 2000, which gives a mortality of 6.41 per 100,000 inhabitants; of these 2000, 1404 were men and 596 women; 813 were married, 884 single, 177 widowers, and 61 widows. Three causes of the increase are given: the greater difficulty of earning a livelihood, the growing burden of taxation, and the spread of education, which in many cases leads to much unsatisfied ambition. The districts where suicide was most prevalent are those where education is most developed; in the provinces where education is, if anything, neglected, the proportion attained is scarcely two or three per 100,000.

Temporary Ectopia Cardis.—The *British Medical Journal* recalls Surgeon-General Jameson's story at the Virchow dinner of the officer who, wounded in the region of the heart, received no wound of the heart, perhaps because that valued organ was at the moment "in his boots" and the MEDICAL-NEWS story of Ex-Governor O'Farrell of Virginia, who attributed his escape from fatal injury under like circumstances in our Civil War, to the fact that "his heart was in his mouth" and suggests that temporary ectopia cardis would seem to be a not infrequent condition among warriors "when the drums begin to beat." All that has been wanting to set these cases on a proper medical (or is it surgical?) footing was a scientific title. Now they have it.

Continued Decrease in the Population of France.—The official reports of the Ministry of Commerce on the French population have just been issued for the year 1897, during which the total number of births was 859,000, as against 865,000 births for the year 1896. In military and colonial circles the apprehension caused by this decrease is further emphasized by the discovery that the French population contains a smaller number of men and women of what are termed the able-bodied ages, namely, from fifteen to fifty-years in the case of men, and to forty-five in the case of women, than it did thirty years ago. The number of men capable of bearing arms, which has been stationary for forty years, shows a slight falling off, even after due allowance is made for loss of territory.

Dinner of Medical Alumni.—The alumni of the College of Physicians and Surgeons, New York, had a dinner on the evening of the 8th inst. Drs. Gibbs and Lehmann, alumni who died in the late war, were eulogized. Dr. Charles McBurney, in the course of a diverting speech, said: "I am perfectly willing to admit that the College of Physicians and Surgeons is the finest and best-equipped plant for medical instruction that was ever erected; that it is reported to have the most capable, skilful, and learned corps of instructors that were ever gathered together; but as for me, I am of the old school." From this it is evident that he is far from being in sympathy with the new and so-called "advanced" ideas of medical teaching.

Sir William Jenner's Death.—Sir William Jenner, the distinguished English medical man, died December 12th. He was President of the Royal College of Physicians of London from 1881 to 1889 when he retired from the practice of his profession. He had been Physician in Ordinary to the Queen since 1862 and to the Prince of Wales since 1863. His work on the differentiation of typhus and typhoid fever is well known. In 1894 the Maxon Medal of the Royal College of Physicians, which is given for distinguished services in clinical medicine, was conferred upon him. Sir William Jenner was nearly eighty-four years old, having been born in 1815 in Chatham, and began his medical career as a general practitioner. His first hospital appointment was as Surgeon Accoucheur to the Royal Maternity Hospital.

The Meeting of the American Society of Naturalists.—The principal meeting of the American Society of Naturalists which, as we have announced before, is to have a series of meetings in New York City during Christmas week, will be held at Schermerhorn Hall, Columbia College on December 29th. An address of welcome is to be delivered by President Low and then short papers are to be read on "Advances in Methods of Teaching" by the following heads of university departments with special reference to their branches; Zoology, Professor F. G. Conklin of the University of Pennsylvania; Anatomy, Professor George S. Huntington of Columbia University; Physiology, Professor W. T. Porter of the Harvard Medical School; Psychology, Professor Hugo Münsterberg of Harvard University; Anthropology, Dr. Franz Boas of Columbia University; Botany, Professor W. F. Ganong of Smith College.

"Archives of Pediatrics."—The December number of this journal closes the fifteenth year of its existence. With the beginning of the new year E. B. Treat & Co. of New York become the sole proprietors of the journal, having purchased the interest of its founder and former owner, William Perry Watson, M.D. The present editorial management, however, continues the same. In closing the fifteenth year of its existence the editor indulges in some reminiscences upon the growth of that specialty. He says: "The launching of a pediatric journal fifteen years ago was a difficult and hazardous undertaking and its success was only achieved by the energy and determination of its founder. Without a pediatric society in the land, or even the section of a society to stimulate men to special work; without a full professor of pediatrics in any medical college, or any organized body of teachers or workers, the difficulties of maintaining a special journal were indeed great. The *Archives* has been a potent factor in combining and solidifying the diffused elements which now go to make up the specialty of pediatrics."

Shorter Hours for Drug-Clerks.—The occurrence during the past week of the substitution in a prescription of

atropin for morphin, which was noted in last week's issue, was followed by serious, but fortunately not fatal, symptoms. Attention is called to it once more for the purpose of emphasizing the necessity for the strictest enforcement of the regulations already existing as to short hours of service for drug-clerks. There can be no excuse for a mistake committed because weariness supervened after too long service, the resultant inattention causing fatal substitution. The clerk in the prescription department must during hours of service ever be thoroughly wakeful. His position is in a lesser degree as important as the train-despatcher or switch-tender and lives are often dependent on careful and supremely intelligent service. The Druggists' League for Shorter Hours has a ten-hour bill to be introduced into the next New York legislature and it is to be hoped that the united efforts of medical and druggist influence will bring about its passage. The movement has our heartiest sympathy and its object our most cordial commendation.

Preparations for Burial after Only Apparent Death.—An inmate of the Dodge City Soldier's Home in Kansas is said to have been pronounced dead by the physicians and to have been prepared for burial. He revived after having been put in his coffin, and is now said to be on a fair way to recovery. He has no recollection, it is reported, of any sensation during the time he lay apparently dead except a confused feeling of hunger and a distinct iciness about his feet. This is one of those cases of preparation for burial of the living which are reported every now and then, usually from some obscure out-of-the-way place. Investigation practically always shows that they are a figment of some reporter's vivid imagination. They disturb very seriously the peace of mind of certain nervous people and are a source in this way of a good deal of needless suffering. We have written to the superintendent and the medical attendant of the Dodge City Soldier's Home, and shall report the real facts of the case to our readers if it is possible to obtain them. We shall always be glad to report the exact details of such cases, and especially of the correction of errors in this matter so common in the daily press.

The Truth about Vaccination.—Dr. Bizzozziro, in a recent lecture delivered at Rome, recalled strikingly to his audience the success of vaccination in Germany. He said: "Germany stands alone in fulfiling in great measure the demands of hygiene, having in consequence of the calamitous smallpox epidemic of 1870–71 enacted the law of 1874 which 'makes vaccination obligatory in the first year of life and revaccination also obligatory at the tenth year.' What was the result? With a population of 50,000,000, having in 1871 lost 143,000 lives by smallpox, she found by her law of 1874 the mortality diminished so rapidly that to-day the disease numbers only 116 victims a year. These cases, moreover, occur almost exclusively in towns on her frontier. If it were true," continued Professor Bizzozzero, "that a good vaccination does not protect from smallpox, we ought to find in smallpox epidemics that the disease diffuses itself in the well-vaccinated no less than in the non-vaccinated countries. But it is not so. In 1870–71, during the Franco-German war the two peoples interpenetrated each other, the German having its civil population vaccinated optionally, but its army completely revaccinated, while the French (population and army alike) were vaccinated perfunctorily. Both were attacked by smallpox; but the French army numbered 23,000 deaths by it, while the German army had only 278; and in the same tent, breathing the same air, the French wounded were heavily visited by the disease, while the German wounded, having been revaccinated, had not a single case.

Report of the Austrian Commission on Bubonic Plague.—The Imperial Academy of Science of Vienna has given out the report of the above commission. It will be remembered that the lamented Dr. Hermann Müller, who recently fell a victim to the plague at Vienna, was a leading member of this commission and executed and described the principal scientific work. According to him, the experience gained during the last epidemic shows the development of the bubo to be one of the first symptoms of the disease and to precede the earliest appearance of the violent disturbance of the nervous system. Clinical observation leads strongly to the conclusion that the disease originates in an infection through the skin, which remains localized for a time. The general affection afterward develops from this center. Apart from primary infection, pneumonia, which unquestionably enters through the respiratory canal, it is probable that in no case is there an absence of glandular swelling, although in many instances the presence of the primary bubo cannot be clinically ascertained with certainty. Dr. Müller's colleagues were unable in three cases which they dissected to discover the characteristic signs of the primary bubo. The dissections proved, however, that in certain cases where the swelling was slight and painless, the examination of the patient by palpation or touch had failed to establish the presence of a bubo which, nevertheless, existed. Dr. Müller considers it probable that, in many cases, the infection may retain its local character during the whole course of the disease and never become general. The milder character of the disease in individual cases cannot with any certainty be attributed to mere localization, however, as instances of the less malignant form also occur where the infection is general. The time at which the infection becomes general cannot be recognized from the external symptoms. From these circumstances it must be concluded that the course and termination of the disease are not to be inferred from the mere fact that the infection has remained localized or become general. The positive or negative result of bacteriological examinations is alone decisive. He expresses himself strongly against the experimental puncture of the bubo, and is still more opposed to larger incisions and the cleaning out of its contents. A patient, he says, does not die because he has bacilli in his blood, and does not recover because of their absence. On the contrary, the question whether the organism will triumph over the disease depends upon the degree of its natural power of resistance to the toxins of the bacillus. There can be no doubt that general infection has occurred in patients who have recovered, and it is even probable that there have been many such cases.

SPECIAL ARTICLE.

THE PRESENT STATUS OF OPINION UPON THE USE OF QUININ IN MALARIA.

QUININ has long been recognized as a thoroughly efficient remedy for malaria. At the same time there has always existed an undercurrent of feeling that it is more or less harmful to the human organism. This feeling has persisted despite the extensive use of quinin for centuries and despite the fact that except where idiosyncrasy existed it was usually impossible to point out definitely any unfortunate effects from its adminstration. This feeling of suspicion toward the drug corresponding closely to the very similar feeling with regard to the use of mercury in syphilis, has had its periods of dominence in medical history. Notwithstanding the fact that the action of quinin is no longer the mystery that it was before Laveran's discovery of the plasmodium malariæ, we seem about to enter on such a suspicious therapeutic period at the end of the enlightened Nineteenth Century.

We now know that quinin acts by its germicidal power over the plasmodium, and need not appeal to any indefinite theoretic antiperiodic or antifebrile action to explain its prompt action on malarial paroxysms, yet there is in the air a spirit of opposition to the drug that is liable to do a good deal of harm. Of late this opposition has taken the form of warnings against the use of quinin in suitable quantities for the treatment of the estivo-autumnal type of malaria. This form of malaria which only recent study has separated from the general class of intermittent fevers is acknowledged by all observers to be especially obstinate to treatment. All the authorities on the subject, however, who draw their knowledge from clinical experience and not from an inner consciousness are agreed that quinin is the one remedy absolutely necessary for the treatment of the disease, and that to accomplish any results the drug must be pushed vigorously and fearlessly and this despite complications that may be present.

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Professor Koch started the present reaction against quinin by stating after his return last June from German East Africa that he believed that quinin was used in too large doses in the treatment of malaria, especially in the tropics (it is there that the estivo-autumnal type of malaria abounds). He considered it proved to his mind that the well-known and much-dreaded "black-water fever" of the tropics, malarial hemoglobinuria, was practically always due to the excessive administration of quinin. This declaration of Professor Koch's had an unfortunate effect it is said even in our own army during the recent war. Some of the men refused to take quinin as a prophylactic, others stricken with malaria refused to take the drug as a remedy, or at least objected to its exhibition to them in doses sufficient to secure prompt and effectual results. Even some medical men were discouraged from prescribing as much quinin as they might otherwise have employed because of Koch's declaration.

It is of interest then to note that from all those having really extensive clinical experience in the matter of malaria Koch's views have called forth decided protest. Here and there some one with but small experience of malaria, or perhaps none (in which of these two classes we shall include the writer of a recent editorial in *The Journal of the American Medical Association* we do not know), has expressed agreement with Koch's opinion in the matter. The voice of our own Southern medical men, of the English medical men in India, and of the medical men of Brazil and of Italy have been as a unit against Koch. Dr. W. H. Crosse, recently the chief medical officer to the Royal Niger Company, the great English commercial and exploring company of Central Africa, discussed Koch's statements as to quinin and its etiologic relation to "black-water fever" at the opening meeting for the present scholastic year of the Guy's Hospital Physical Society. He has had a very large experience with tropical malaria, especially with the African forms of it, and is very outspoken as to Koch's imprudent jumping at unjustifiable conclusions in the matter of quinin intoxication. He has had "black-water fever" himself, a privilege not accorded to many foreigners whom the gods destine for long life, and is assured that quinin stands in no sense in a causal relation to it. The best proof of this is that the black-water fever occurs only in certain well-defined parts of the country, though quinin in used unsparingly throughout all parts of Africa. Another convincing consideration is that even in the midst of the genuine malarial hemoglobinuria the only remedy that can be depended on is quinin.

Koch was not the first by any means to call attention to the fact that quinin sometimes causes disintegration of the red blood-corpuscles. This fact had often been noted and was known to be an idiosyncrasy to quinin to which certain people with peculiarly susceptible red blood-corpuscles are liable. Laveran treats the subject very practically after considerable experience with it in Northern Africa and suggests the use of another of the cinchona alkaloids, the sulphate of cinchonidin, in such cases, but is not able to advise a stoppage of "bark" treatment.

. . . . . .

The estivo-autumnal type of malaria is especially intractable. It does not yield promptly to quinin, as do the other forms of the disease, but quinin is, nevertheless, in the eyes of all the authorities, our sheet anchor in its treatment. It is the form of malaria which is most liable to be complicated by nephritis, but the occurrence of this or of simple albuminuria does not constitute a contraindication to quinin. Brun and Laveran describe a form of intermittent albuminuria which is benefited by quinin. Rem-Picci of Rome in a recent series of articles on malarial nephritis in *Policlinco* has expressed his views on this matter very forcibly and considers that the renal lesions will be inevitably progressive unless quinin is administered in large doses without delay. Our own Osler says, "In an active malarial infection (no matter what the complication) the patient runs less risk with the quinin." It is interesting to note that he has "never seen a case in which black-water fever developed as the result of the use of the drug."

The files of the Indian and Brazilian medical journals

contain a number of protests against Koch's unwarranted deprecation of quinin and the harm it is liable to do if taken seriously. The good story from the Roman Hospital that was told last week in our editorial columns seems, as was said, almost too apt and too timely to be true, but it illustrates very forcibly Italian opinion as to the use of quinin, and especially of the necessity for pushing it, in the depressed conditions that result from estivo-autumnal infection. The intravenous injections of quinin introduced by Professor Bacelli are growing, not decreasing in favor. Certain remedies act as very helpful adjuvants to quinin in certain cases of the estivo-autumnal type, though quinin itself is practically indispensable. Among the adjuvants practically all are agreed that opium is the most useful. Employed as Professor W. H. Thomson suggests (see page 777) in the form of camphorated tincture, it is undoubtedly tonic and stimulant and gives with the quinin results that that very useful drug would not give alone. Nothing can, however, replace quinin in the treatment of even estivo-autumnal malaria, so that there is every reason on good clinical authority to discourage the feeling at present existing in certain quarters, that it is not indispensable and may do harm.

SELECTED ARTICLE.

A FEW FRIENDLY BACTERIA.

The following conversation, overheard some months ago, may be of interest at the present time:

A few friendly Bacteria were drinking coffee after having dined together at the Royal Intestine Club one evening, when the Diphtheria Bacillus remarked to the Typhoid Bacillus: "Typhy, old man, you are one of the lucky devils; business goes along well with you, while we fellows see our splendid old-established houses crumbling before the modern school. Now, there is poor old Smallpox. I have heard Amebic Dysentery and his grandfather Cholera say they remember when Smallpox did nearly all the business on the Continent."

Over by the window, reading *The Anti-Serum Gazette*, sat Tubercle Bacillus. You could see that in his younger days he had been quite a fine-looking fellow. He rose and, approaching the group, said: "Well, boys, how is business?" "Pretty good," said two or three. "Elegant," said Measles, in his weak, piping, impudent voice. "I see, Diphtheria, my boy," continued Tubercle Bacillus, not noticing Measles, "England is still with you. She will not accept Antitoxin; they are weakening, though, I am afraid. Now, I have made it a rule when these investigations are too searching to get out of the way for a little while by taking up business somewhere else. Why, one day Staphylococcus, who is now in business with me (clever all-round fellow he is, too), came running into my office and said: 'Have you seen that Koch has definitely discovered you?' 'Yes, I saw that,' I replied quietly; 'but don't worry. And, boys I say to you, don't mind being seen. In my late unpleasantness with Koch over the Tuberculin affair, I was sorely put to it, but one day I called Streptococcus and said that he and Staphylococcus must transfer the bulk of my business from the lungs to the peritoneum, and that I wanted my own men at first to be put in charge of the new place of business, and that later Strepto and Staphylococcus and their men could take hold. "Well, you would be surprised how nicely business is going on there. I have been thinking seriously of giving up the lungs altogether."

"It's all right," said Typhoid, "for you and Diphtheria to talk of shifting your business. Now, I can do business in but one place, and they seem to be getting on to me there fast. It was evident that Typhoid was depressed and thought that his business looked gloomy; he, however, called the servant, Ptomain, to take the orders for drinks. Tubercle and Typhoid ordered milk punches, Typhoid adding that he wanted a dash of Woodbridge Antiseptic, which he found improved him so much. "Or, no," said he; "give me a bottle of Aerated Schuylkill Water. That always improves me."

"What are you grumbling about, Typhoid?" said Yellow Fever. "You who have no port restrictions ought to be happy enough now that war is declared." "You don't say so," said Malaria; "that makes things look up all around." Malaria was an Italian by birth; he had never been cultivated, however, and, being a foreigner, his methods of business were a little obscure, even to Typhoid, who at one time was supposed to be in partnership with him. "I have it," said Typhoid. "Let us watch the medical appointments, and if they are what we want, Yellow, and you, Malaria, and I will go to Cuba, and see what we can do." "There is not a name on the list I ever heard of, and I'll bet," continued Malaria laughingly, "not one of them has ever heard of me, much less seen me. But they all know about Quinine," he added dolefully. "Never mind," said Typhoid, "we can fool them together on the temperature charts. I will write a private letter to Johns Hopkins Hospital and ask if they have any objection to Messrs. Malaria and Typhoid doing business together for a few weeks."

The conversation herein related was overheard by Bichlorid and his brother, Calcium Chlorinatus, and the young fellow Formaldehyd, also Quinin, who were doing detective duty in the interest of the United States Government and the army. When the appointments to Cuba came only Quinin was appointed, and the rest were kept at home to do hospital duty.—DR. CAMAC, *N. Y. Times*.

CORRESPONDENCE.

A CASE OF XEROSTOMIA AND ITS CURE.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—I read with much interest the article on "Dry Mouth" by Dr. Lartigau in the MEDICAL NEWS of October 29th, as I have been wrestling with a case of that kind which I think can now be called completely cured. The case is as follows: Mrs. A., married, fifty-six years of age, born of Hebrew parents in Alsace, has resided in California since the early days, where she has raised a family of healthy children. She has always been healthy and robust, and now weighs 170 pounds, al-

though she has been *sans* teeth of any description for the last fifteen years. She is quick and nervous in action and manner. In May, 1897, she consulted me with reference to an extreme dryness of her mouth, which had been troubling her then for about four months, and which kept her constantly chewing to try to relieve it. She said it came on suddenly after an examination of her mouth for the purpose of having a set of teeth fitted, but which she was disappointed in getting.

I tried several remedies without appreciable effect, but on advising her to keep smooth pebbles in her mouth several hours a day she experienced marked relief. I advised the wearing of artificial teeth, therefore, as the best method of obtaining permanent relief. In August, 1898, she had a double set of teeth made, and since wearing them she has not had the slightest symptom of the trouble that had been harassing her constantly for twenty months.

M. W. WARD, M.D.

WOODLAND, CAL., December 1, 1898.

LYCOPODIUM SPORES IN URINE.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—Erroneous interpretation of foreign bodies in human secretions and excretions is a very extensive subject, and I should not add to the literature were it not for the fact that in the present instance the cause of error was a substance that might be supposed to be familiar, and the persons misled experienced microscopists. One can hardly be surprised if men without training in microscopic work mistake pitted cells for tube-casts, spiral ducts for parasites, etc., but modern biologic training should prevent such errors as the one described below.

While working at Sternberg Hospital, Chickamauga Park, last summer, a specimen of urine was brought to me from another hospital, with the following history: The urine came from a female nurse, sick with a mild fever. It contained a small amount of albumin and a fine granular sediment, and in the latter were always bodies which up to that time had not been positively identified. The gentleman who brought the specimen was a specialist in microscopy, appointed by the Government for carrying on laboratory diagnostic work. The bodies were unknown to the regular army surgeon-major, and the several volunteer surgeons in the hospital; they were seen by three experts in bacteriology, all original workers of international reputation, and one at least with training in general biology, without any near guess at their nature. The specimen then went the rounds of several pathologic laboratories with similar results. An ex-professor of pathology who claimed to make special studies in cell-degeneration, and who felt competent to teach that the malarial parasites are degenerated blood-corpuscles, asserted the bodies were degenerated bladder-cells. Many thought the bodies were animal parasites, and a government official, well-known as a microscopist, advised that the specimen be sent to a parasitologist, now in Europe, for identification. The bottle came to me because it was thought by some the bodies were the same as those I reported some years ago from the bladder of a man.

I found bodies in the urine which I at once recognized as vegetable spores of some kind, probably lycopodium, and from the number present thought them due to accidental contamination. I was assured by the physician they were the bodies in question, and were always in the urine in similar numbers as it was passed. A catheter had not been used. I could not at the time obtain lycopodium for comparison, but when I did was able to satisfy myself as to the identity of the spores. In the meantime my suggestion that the contamination depended on a dusting-powder proved to be correct, a powder containing lycopodium being used for some irritation of the labia. A description and illustration of the bodies does not seem necessary, as they can be obtained in any drug-store.

Occasional pollen grains or spores are not uncommon in specimens of urine sent from bedrooms, and their general appearances should therefore be known by those who have to examine urine. As with other contaminations, they can be excluded by taking the specimen with a catheter, or, in the case of a male patient, by seeing it passed.

GEORGE DOCK, M.D.

UNIVERSITY OF MICHIGAN,
ANN ARBOR, MICH., December 10, 1898.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

ANNUAL REPORT OF THE STATE BOARD OF HEALTH—NEW BUILDINGS OF THE UNIVERSITY OF PENNSYLVANIA—HOSPITAL BEQUEST—ANNUAL DINNER OF THE RESIDENT AND EX-RESIDENT PHYSICIANS OF THE PHILADELPHIA HOSPITAL—JEFFERSON MATERNITY DOLL-SALE—PERSONAL NOTES—INSTRUCTION IN CONTAGIOUS DISEASES—HEALTH-BOARD STATISTICS.

PHILADELPHIA, December 13, 1898.

THE fourteenth annual report of the State Board of Health has just been made public and contains not a few points of interest. After relating the results of the water-supply investigation and detailing suggestions for the improvement of the supply, as related in the MEDICAL NEWS a few weeks ago, the report takes up the matter of infectious diseases which were prevalent in the State during the last year. Five outbreaks of smallpox have occurred during the year, with but two deaths in a total of twenty-four cases. Two of the cases occurred in Philadelphia and, the authorities believe, may have been brought from the South by means of cotton, as the cases occurred among cotton-mill operators. Anthrax occurred in four counties of the State, and seems to be less rare than it is generally believed to be. There have been thirty-one outbreaks of diphtheria this year as against sixty-one during 1897, in connection with which the assistance of the Board was asked. Scarlet fever appeared at nineteen different points and there were twenty-nine outbreaks of typhoid fever as compared with seventeen last year. The local epidemic of typhoid fever confined to a certain section of the city seems to have been due to a defective sewer, which poured its contents into Wissahickon Creek, just above the intake of Queen Lane reservoir, which supplies the infected portion of the

city. A soldier from Porto Rico had what was probably yellow fever, the only case occurring in the State. There are several cases of leprosy in the State and one supposed case in Philadelphia.

The report concludes by calling attention, among other things, to the illegal practice of medicine, registration of graduates and licentiates in medicine, and to legal opinions and decisions.

The new laboratories of pharmacy, physiology, and pathology of the University of Pennsylvania will be begun in the spring and a committee of twelve, with Dr. J. M. Baldy as chairman, has been appointed to aid in raising the necessary money, some $300,000. An appeal is to be made to the alumni of the Medical Department and it is thought there will be no difficulty in securing the money from them as of 11,000 graduates there are probably 6000 now living.

A unique bequest, which is on exhibition here, has been made to the Delaware Hospital at Wilmington, in the shape of a handsome set of silver presented by employees of the Pennsylvania Railroad to Henry H. Carter, a division superintendent, and bequeathed by his widow to the hospital to be sold, the proceeds being used to maintain a free bed for railroad employees.

The Association of ex-Resident and Resident Physicians of the Philadelphia Hospital held its twelfth annual dinner last Tuesday, December 6th, at the University Club. Dr. J. Chalmers Da Costa, Chairman of the Committee of Arrangements, acted as toastmaster and toasts were responded to by Drs. William Osler of Johns Hopkins, Theodore Diller, J. William White, Horatio C. Wood, Alfred Stengel, Charles S. Potts, Joseph T. Buxton, and Richard C. Norris. A letter was read from Dr. Alfred Stillé, the President, who was unable to be present. About seventy members were present at the dinner.

A sale of dolls was held at the Stratford Hotel on Friday and Saturday last for the benefit of the Jefferson Maternity. A feature was "the old woman who lived in shoe," the shoe in question having been used for the same purpose at the Sanitary Fair held in Logan Square during the war (1864).

Dr. George M. Stiles of Conshohocken has been appointed by Governor Hastings a trustee of the State Hospital for the Insane at Norristown.

Dr. A. Graham Reed, aged sixty-one years, died of pneumonia last week. He was a graduate of the University of Pennsylvania and served as surgeon during the Civil War.

Dr. Thomas Leidy Rhoads, who recently received appointment as Assistant-Surgeon in the United States Navy, has resigned.

The local Board of Health has had quite a wrangle over the question as to whether advanced medical students should or should not be admitted to the wards of the Municipal Hospital for the purpose of studying contagious diseases. The Women's Medical College and the University of Pennsylvania recently asked for the privilege of sending students to the hospital for such purpose, and in view of these requests the following resolution was introduced:

Resolved, that the physician in charge of the Municipal Hospital be authorized to give instruction to ward classes in said Hospital, under such regulations as he may formulate, and which shall be approved by the Director of Public Safety and the Sanitary Committee of the Board of Health, provided that such instruction may be discontinued at any time by order of the Director of Public Safety or the Board of Health.

President A. A. Hirst was most bitter in his opposition to the resolution and declared that the notorious carelessness of medical students would spread contagion through the city. Dr. Walk and Dr. Lee favored the resolution for, as the latter justly said, how can a medical graduate be expected to recognize smallpox, for instance, when he has never had the opportunity of seeing a case? Action was deferred, but it seems probable that the resolution will be passed, especially as Dr. Welch, resident physician of the Hospital, has expressed his willingness to aid by giving ward instruction.

The total number of deaths occurring in Philadelphia during the week ending December 10th, as reported at the health office, was 436, of which 114 occurred in children under five years of age. The total number of new cases of contagious diseases was 228, reported as follows: Diphtheria, 94 cases with 17 deaths; scarlet fever, 22 cases with no deaths; typhoid fever, 112 cases with 7 deaths.

MEDICAL MATTERS IN CHICAGO.

MUSICAL HEART MURMURS—DIETETIC MANAGEMENT OF DIABETES—CASE OF DR. GUIDONE—THE ILLINOIS DRAINAGE CANAL FROM A SANITARY STANDPOINT—VITAL STATISTICS—SYMPOSIUM ON GONORRHEA.

CHICAGO, DECEMBER 12, 1898.

AT a meeting of the Chicago Society for Internal Medicine, held November 22nd, Dr. Henry F. Lewis read a paper on "Musical Heart Murmurs." He reported a case of mitral stenosis characterized by a musical murmur heard about the apex and at the end of the diastole. Musical murmurs heard over some parts of the heart's area, in various abnormal cardiac conditions, are not uncommon phenomena. According to Eichhorst, a musical bruit may be caused by a congenital aberrant cord running from the ventricle to the aortic wall. Huchard maintains that aortic regurgitation due to arteriosclerosis is more commonly accompanied by musical, rough or whistling murmurs than is that lesion due to other causes. While musical sounds are oftenest heard in the aortic region and are due to a lesion of the corresponding valve, yet sometimes mitral disease may be the causative factor. In the second case the musical murmur was heard with diastole over the right carotid as far up as the angle of the jaw, and for a short distance along the course of the right subclavian.

DR. CHARLES W. PURDY read a paper on "The Principles of the Dietetic Management of Diabetes Mellitus." He dwelt upon the general features of the disease and its amenability to treatment in the aged and in the young. He then spoke of the caloric value of the most suitable

foods in diabetes, the use of meat and the failure of the absolute meat diet. He pointed out the use of fat and its high potential value as a nutrient and force generator. The range of use of the carbohydrates was dwelt upon at length. Diabetes after middle life is one of the most manageable diseases with which the physician has to do, if he only has entire control of the patient. Reference is made especially to primary cases of the disease in people over fifty years of age, who have not already been neglected to the extent that the disease has made serious inroads upon the strength and upon the body weight of the patient. The diet of diabetic patients should be so ordered as to maintain, and, if possible, increase the body weight and strength of the patient, as these are the first to be undermined by the disease. In order to compass these primary objects a systematic series of frequently recorded observations must be made of the quantity and quality of the food actually ingested; of the quantity and quality of the waste excreted, especially by the kidneys, and of the actual body weight. By these means only it is possible to detect those disturbances of the metabolism caused by the disease and to refer directly to their cause. There exist among diabetic patients the greatest differences in individual capacity for utilizing the carbohydrates. Some can take and utilize comparatively large amounts; others very much smaller amounts; while a few cannot take carbohydrates in the smallest quantity without their immediate escape by the urine in the form of sugar. Not only this, but also very wide oscillations of the tolerance for carbohydrates occur in the same patients at different, and sometimes, very briefly separated periods.

Recently a Dr. R. F. Guidone was charged with practising medicine in Illinois without a license and was acquitted. The State Board of Health will appeal the case and this gentleman will be prosecuted if he attempts to practise further. The Illinois State Board of Health recognizes no foreign diplomas as a basis upon which to issue a certificate to practise medicine and surgery in Illinois. More than 50 per cent. of the degrees purporting to be issued by foreign universities which have been presented to the Board during the last two years have been found to be fraudulent.

With a view to protecting the taxpayers of Illinois against unwarranted claims for damages growing out of the operation of the drainage canal, Commissioner of Health Reynolds has addressed an important communication to the drainage board. Believing that the waters of the Illinois and Mississippi will not be polluted by the flow of the canal, he urges the necessity of preparing evidence at once, showing the present sanitary condition of the streams. A systematic and thorough official test is advised for the purpose of forestalling claims which are certain to arise after the canal has been opened.

The subject is one to which Commissioner Reynolds has given his personal attention for years. From tests of the water, made at various points along the route of the future flow of the drainage canal, he is satisfied that the water purifies itself by reason of natural conditions, and he is convinced that St. Louis, Peoria and the various towns touched by the line of the sanitary outlet for Chicago will not suffer by reason of a pollution of the water. To establish this fact he calls attention to the importance of official records showing the quality of the water at all of these points before and after the sewage of Chicago has been turned into the channel. Without this evidence, assuming Dr. Reynolds is correct in his theory, the sanitary district is threatened with an inestimable financial drain by reason of damage suits based upon the pollution of the water between Chicago and the Mississippi. Such examinations have been made from time to time since 1869—the most important, in point of number, being those instituted by the late Dr. John H. Rauch in 1866-89, made by Professor J. H. Long and collated by Dr. F. W. Reilly. While these examinations demonstrated the effective decomposition of sewage matters, and consequent purification of the stream in a flow of less than fifty miles—that is, between Bridgeport and Channahon—they are defective scientifically, in that they were confined solely to the chemic determinations, and in the present developed state of water analysis and examination, when water bacteriology is deemed essential, they would probably have little weight. This defect was, in part, remedied by the work done as late as September, 1894, by Dr. Adolph Gehrmann of the city department laboratory, who made a special bacteriologic study of certain organisms in the water between the south branch of the Chicago River and a point a few miles below Peoria. But this work was confined to the bacterial examinations and was not supplemented by simultaneous chemic analysis. Both are essential. If the suggestion be acted upon Dr. Reynolds will take general charge and arrange the details of the collection of samples, the points whence these shall be obtained, the technic to be employed in the examinations, the data to be included —meteorologic, topographic, demographic, etc.

From a sanitary point of view the people will watch with great interest the progress made in the construction of the drainage canal from the inception of the plan. It is an open question now whether the sewage of Chicago for all time can be disposed of by dilution as contemplated in the canal plan. If it cannot, eventually evaporation must be substituted, or at least, added. The existence of the drainage system will make that plan easier in any event, and the money spent in the canal will not have been wasted. But that has nothing to do with the question at hand. The operation of the drainage canal will be successful from a sanitary standpoint, both for the sanitary district of Chicago and for the country below. There is no doubt that the diluted flow in the canal will purify itself through the action of the air and by precipitation. An analysis of samples of water taken from the Illinois, Mississippi and other streams into which sewage empties confirms this belief.

There was an increase of 38 in the number of deaths from all causes during the week ending November 25th over the total of the previous week and an increase of 83 over the total of the corresponding week last year. This increase is chiefly in deaths from cancer, diphtheria, and nervous diseases. The number of deaths from cancer, 25, is the

highest ever recorded in any one week in Chicago. In his second annual report, that for 1894, Health Commissioner Reynolds showed that the mortality from this disease had increased 812 per cent. in the forty-four years between the ten-year periods, 1851–60 and 1885–94, and then pointed out that this enormous increase, the incurability of the disease in almost all its forms, and the increasing evidence of its infectious character strongly indicated the need of preventive measures, such as disinfection of dressings, clothing, etc., of cancerous patients during life and of premises after death to as full an extent as in the case of consumptive patients. Four hundred and sixty births were reported, 244 being of boys and 216 of girls.

At a meeting of the Chicago Medical Society, held November 30th, a symposium of papers was presented on "Gonorrhea." DR. F. KREISSL spoke of gonorrhea in the adult male, and pointed out as the cause of failure in dealing with the disease superficial diagnosis, incorrect conception of the gonorrheal process, improper selection of the remedies, and the almost universal tendency to start in with an effective treatment too late and to discontinue it too soon, and last, but not least, the lack of individualizing cases. Silver salts still rank very high in the treatment of this malady, and their value in destroying the vitality of the gonococcus is being more and more appreciated. DR. T. J. WATKINS dwelt upon gonorrhea in the female adult. DR. I. A. ABT discussed the subject of gonorrhea in children, saying that gonorrheal infection of children manifests itself primarily as a vulvovaginitis, a urethritis in the male child, a purulent ophthalmia, stomatitis, or rhinitis of the newborn. The disease occurs in children from one to twelve years old, although it is most frequent in children under six years of age. The vulva and urethra are most often attacked primarily; the vagina, if involved, becomes so secondarily. The gonorrheal virus may be conveyed through sponges, towels, bed linen, by manipulation of the parts with unclean fingers, fever thermometers, or the contagion may in rare cases be conveyed by criminal assaults on little girls. The prognosis in little girls is more favorable than in adults. He reported two cases as having come under his observation; one in a boy, aged two years and three months; the other in a patient nine years of age. DR. D. N. EISENDRATH read a paper on the pathology of gonorrhea and treatment of some surgical complications. DR. BERTRAM W. SIPPY dwelt upon gonorrhea from the standpoint of internal medicine. As etiologic factors he considered (1) the presence of the gonococcus; (2) the action of gonotoxins produced either at the site of the inflammation, or possibly conveyed by the blood to the part from the seat of primary infection; (3) secondary infection with various micro-organisms; (4) mixed infection. Arthritis occurs as a metastatic complication of gonorrhea in from 2½ to 3 per cent. of all cases. Endocarditis complicates gonorrheal processes much more rarely than arthritis. The left heart is more frequently affected. Diseases of the brain, spinal cord, meninges, cranial and peripheral nerves have been reported on good authority, in which gonorrhea was regarded as the etiologic factor. Functional disease of the nervous system is much more common in gonorrheal cases. There is nothing specific in the symptomatology of nervous disease complicating gonorrhea. A relatively large number of patients with myelomeningitis have recovered. Bacteriologic research has been attempted a few times, but thus far the gonococcus has not been found.

OUR LONDON LETTER.

[From Our Special Correspondent.]

A RARE CASE OF SARCOMA OF THE HEART AND KIDNEY—EMBOLISM OF THE COMMON ILIAC ARTERY AND VEIN, SPLEEN AND KIDNEYS IN TYPHOID FEVER—INCREASE OF TABES MESENTERICA IN CHILDREN DUE TO MILK—A STENOGRAPHIC MEDICAL JOURNAL—OLD MORTALITY REPORTS.

LONDON, December 5, 1898.

AT a recent meeting of the Pathological Society a large number of specimens was presented and reported upon, but only a few were of unusual interest. Among them was a sarcoma of the heart, presented by DR. H. LISTER. The patient was a young girl who was brought into the hospital complaining of pain and swelling in the abdomen. A tumor in the right lumbar region was promptly discovered and also a well-marked heart bruit and general pulmonary dulness. The latter rapidly progressed to congestion and the patient died in about two-weeks' time. At autopsy a rounded fleshy growth about the size of a hickory-nut was found projecting into the cavity of the right auricle and the right kidney was changed into a pulpy, dark-red mass, as large as a child's head. Both tumors upon microscopic examination were clearly sarcoma of the small, round-cell type, sections being exhibited. The interesting features of the case were its great rarity, only some fifteen cases of primary sarcoma of the heart being on record, and the extremely rapid growth of the tumors which produced death within a month from the time of the first appearance of any noticeable symptoms.

DR. WILLIAM HUNTER showed specimens of complete embolic obstruction of the common iliac artery and of the corresponding vein upon the right side after typhoid fever. The leg became completely gangrenous up to the upper third of the thigh, but as an interesting confirmation of the belief that the septic processes of even gangrene are caused by infection from without, on being thoroughly asepticized and wrapped in salicylated wool and sublimate gauze it dried up and mummified without giving rise to any septicemic symptoms whatever. The patient, a boy aged fifteen years, lived three weeks and then succumbed to further embolization of the spleen and kidneys, and finally thrombosis of the apex of the left ventricle, all of which viscera were exhibited. Truly, the limit to the possible sequelæ of typhoid does not seem to have been reached yet. Several similar cases were reported by Drs. Boyd and Hawkins.

A specimen of primary carcinoma of the gall-bladder without a calculus was shown by PROFESSOR ROSE BRADFORD, and a similar condition with a large calculus firmly embedded in the grasp of the growth by Dr. William

Hunter which brought forth a discussion of the mooted question of the causal relations between calculus and cancer. The balance of opinion inclined to the coincidence view.

DR. HADLEY presented a specimen of that rare condition, primary carcinoma of the pleura with secondary deposits in the kidney, liver, and heart.

At Mr. Jonathan Hutchinson's weekly demonstration at his clinical museum last week two rare cases were shown, one of rapidly growing neuroma upon the lower trunks of the brachial plexus in a woman aged seventy years. The tumor had been noticed only one year, was of the size of a walnut, and caused both night-pain and sharp tingling sensations in the forearm and fingers, especially on the radial side. There were two smaller tumors just below it upon the nerve-trunks. On account of its rapid growth and tendency to become multiple Mr. Hutchinson advised its removal.

The other case was a flat, painful, contracting induration of the skin of the axilla in a man aged eighty-six, which strongly suggested to the lecturer scirrhus of the axillary sebaceous glands. This, though rare, we have little reason to be surprised at on embryologic grounds, as the highly susceptible mamma is but a specialized cluster of these large sebaceous glands. The patient's back and chest were also covered with the yellow plaques of tinea versicolor, and Mr. Hutchinson called attention to the fact that there is a regular succession of tineæ corresponding to the different ages of life. In childhood tinea capitis or tonsurans flourishes, but dies out about puberty or early adult life, tinea barbi attacks the beard, scalp and eyebrows, but loses its power of lodgment by middle life. In middle life man is susceptible only to tinea versicolor, and in old age, as a rule, he becomes immune even to this, the present case being a rare exception.

In the second Harveian Lecture on "Tuberculosis" week before last SIR RICHARD THORNE THORNE took up the question of dissemination through milk. He adduced the interesting fact that although the deaths from pulmonary tuberculosis in adults have decreased nearly thirty per cent. during the last twenty years, yet the deaths from intestinal tuberculosis (tabes mesenterica) in children under one year have increased nearly twenty per cent., so that they account for nearly twenty per cent. of all deaths under this age, a change which he could not help associating with the immense and otherwise infinitely beneficial increase in the use of milk as the main food for children. Bacteriologic examination of numerous samples of milk taken from the stalls in several English towns had revealed tubercle bacilli in from four to eight per cent. of them. He urged vigorous and frequent veterinary inspection of all dairy cattle but thought the tuberculin-test impracticable on account of the enormous expense of killing every animal that reacted, and also because it would disqualify nearly one-third of the cows at present in our dairies and thus cause a serious shortage in the milk-supply. The last consideration strikes us as being rather a singular reason. His own remedy is the condemnation of every animal showing signs of advanced tuberculosis of any organ or of disease of the udder.

A unique curio of medical literature is the little London *Photographic Record of Clinical Teaching and Medical Science*, edited by the Society of Medical Stenographers, of which Sir William Gowers is the leading light. Into a thin, small pamphlet of fifteen pages about six inches by four, are compressed four to six original articles and case reports, several editorials, and a column or two of news items. It is printed in pure Pitman shorthand, and for compactness the contrast between it and the average medical journal is like that between a pound of sugar and a gram of saccharin. Its neatness, lightness, and economy of print and space make us long for the day when nothing but shorthand as a means of literary expression will be taught in our schools and all our literature can be reduced to this compact and beautiful form.

A correspondent of *Guy's Hospital Journal* has unearthed an ancient copy of the Bills of Mortality for London of a week in October, 1714. Some of the causes assigned are delicious and in their frank agnosticism contrast most favorably with our modern "heart-failures," "asphyxias," and "malnutritions." Thus, "griping in the guts" is credited with eight deaths, "stoppage in the stomach" with ten, and the climax is reached by three which were caused by "suddenly." A startling commentary upon certain recent legislation are the deaths from smallpox, which were 73 in one week, or fifteen per cent of the whole list. A fascinating but mysterious finding is "rising of the lights," a disease now almost extinct, unless it may be in some remote rural districts of the Middle West of the United States, where we have heard a patient described as "coughin' fit to raise her lites an' liver."

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

TOXICITY OF APPENDICITIS—SUCCESSFUL RESECTION OF THE STOMACH—HOW FAR IS THE SPHINCTER ANI INDEPENDENT OF ITS NERVES?—DIFFICULTIES OF JEJUNOSTOMY—TO REMOVE FOREIGN BODIES FROM THE NOSE—SALINE SOLUTIONS IN INFECTIONS—NAUSEA AS A PREMONITORY SYMPTOM OF NEPHRITIS—BALDNESS CAUSED BY A NEW DRUG—STERILIZED MILK AND GASTRO-ENTERITIS—TWELFTH CONGRESS OF SURGERY.

AT the Academy of Medicine, November 8th, DIUELAFOY spoke of appendicitis as an affection not only infectious but toxic as well. Urobilinuria and albuminuria are by no means uncommon symptoms, and in grave cases there may be cerebral and bulbar symptoms of a typhoidal character. The icterus and the cerebral symptoms develop in general sooner than similar symptoms of an infectious origin, appearing in the earlier days of the disease, and often in the case of jaundice, before there is fever.

At the Session of November 15th, LE DENTU substantiated the claim for a toxicity of appendicitis. A little girl upon whom he had operated for suppurative appendicitis, developed two days later hydrencephalic cries, and died forty-eight hours later in collapse. The reason assigned was that of secondary metastatic meningitis. He had seen

icterus only in cases of chronic appendicitis. One patient who had suffered for months with gastro-intestinal symptoms and icterus was relieved of all his symptoms including the icterus by the removal of his appendix.

Perier presented a woman from whom a year previously he had removed the central portion of the stomach and the corresponding part of the transverse mesocolon for carcinoma. The parts of the stomach were united by a double row of sutures, and covered with omentum. Recovery was perfect, the patient had gained twenty-five pounds in weight, and there was as yet no sign of recurrence. The result was most encouraging. The speaker called attention to the importance of an empty intestine in operations of this character. This is easy to obtain as far as the small intestine is concerned, but the large intestine will often be found distended with fecal matter, especially if the patient has been upon a milk diet. If such a condition is found at laparotomy a fatal issue may sometimes be avoided by crowding the fecal matter through the colon into the sigmoid flexure.

At the Academy of Sciences, November 7th, Arloing and Chantre told of the results of experiments upon the sphincter ani of dogs. After the complete division of the nerves which supply the sphincter ani, the elasticity of this muscle will prevent incontinence of feces and urine, and its physiologic and anatomic properties are preserved at least a year after bilateral nerve section, while unilateral division of the nerves has no apparent effect upon the sphincter, either upon its structure or function.

At the Society of Surgery, November 9th, Terrier described a jejunostomy for cancer of the stomach so extensive that gastro-enterostomy was impossible. A loop of intestine was fixed in the abdominal wall, and opened fifteen days later. Owing to the small caliber of the intestine and the force of peristaltic effort, it was difficult to introduce nourishment, and still more difficult to prevent its being ejected.

Le Dentu performed jejunostomy under similar gastric conditions but the patient speedily died.

Peyrot performed the operation twice. One patient died almost immediately. The other lived fifteen days only, but during this time he was fed without difficulty through the intestinal fistula.

Guinard had experience with a fistula of the small intestine due to strangulated hernia. He found it impossible to introduce nourishment, except in the smallest quantities.

At the meeting of November 16th, Felizet told of the success which he had in the removal of foreign bodies from a child's nose, by the simple maneuver of forcing air with a powder blower into the free nostril. This expedient succeeded in 26 out of 31 cases, in forcing the foreign body out of the nostril in which it had become lodged. In the other instances forceps were used.

At the Therapeutic Society, November 9th, Bolognesi read a paper upon "Saline Solutions in the Treatment of Infections," in which he admitted the value of intravenous saline injections but gave it as his opinion that this form of administration should be confined to grave obstetrical and surgical cases. The washing of the blood, which it was claimed would result from their use, and which would free the body of poisons in infections, is not thus accomplished. In infections or intoxications, saline solutions should be administered either subcutaneously in moderate doses, 100, 150, or even 500 c.cm., (3 to 16 oz.), the effect upon the heart being carefully noted, or the solutions should be administered by the rectum. Such treatment is beneficial in conditions of hypotension and collapse.

Dalche agreed that saline injections have no antitoxic value. He had seen good results follow their use in poisoning from coal-gas. Recently he had injected subcutaneously 800 c.cm. (26 oz.) for suffocation by carbon monoxid. The condition of the patient rapidly improved.

Mathieu has noted that a persistent nausea may be the forerunner of insidious nephritis, appearing with or without headache some time before albumin can be found in the urine. These gastric symptoms mislead the physician into supposing that he has to do with a disorder of the stomach, while in reality they are the signs of commencing uremia. He had observed this in five or six patients. In order to suppress the alimentary intoxication, and to assure intestinal antisepsis, the patient should be put upon a milk diet, and the bowels should be kept open with scammony or laxative waters, or large intestinal injections may be administered. If the stomach is intolerant of food the patient should be kept upon a fluid diet, or even deprived of all nourishment for a time. By these means it is usually possible to obtain an improvement lasting for a considerable period.

Jeanselma warned the Society for Dermatology and Syphilography, November 10th, against the use of the acetate of thallium, a remedy recently introduced into therapeutics. This drug may cause a rapid and complete falling out of the hair. A woman took in three days about four grains of this remedy. Two weeks later almost all of her hairs had dropped out, the few remaining yielding to the least traction. One month later there was a scanty growth of some of the broken hairs, but in three months baldness was still so nearly complete that there was little hope that the hair would again grow. This instance may serve as a warning against the careless use of new remedies.

At the Medical Society of the Hospitals, November 18th, Lesage described some facts which he had established in connection with an epidemic of gastro-enteritis which had raged in Paris, in August and September last. In the first place infants fed upon sterilized milk were attacked just as frequently as those fed upon raw milk. Furthermore, there was no difference in the course of the disease, or in its symptoms in the two classes of infants. All the injections made subcutaneously into guinea-pigs were without result when the filtered intestinal contents were employed, thus showing that there was no toxin in the intestine. If the epithelial lining of the intestine was macerated and the fluid from it injected, it was in a certain number of cases found to be highly toxic. The bacteria found in the intestine aside from the colon bacillus, were inconstant and varied in different seasons, and also

in different individuals in the same epidemic. It is hard to say just what the exciting cause of such an epidemic really is. The speaker thought that a reason might be found in the prolonged and excessive heat of the latter part of the summer. Such a heated term might increase the virulence of the bacteria normally found in the intestine, especially the bacillus coli, until it was capable of setting up a gastro-enteritis.

The Twelfth Congress of Surgery was held in Paris, October 17th to 22d.[1] FORGUE described an "Intramediastinal Esophagotomy for a Foreign Body in the Thoracic Portion of the Esophagus." A child eight years old had swallowed a large coin. Numerous attempts to dislodge it were made by several different physicians. The radiographs showed it to be situated at the level of the fourth intercostal space, plainly to the right of the vertebral column. It was, therefore, decided to operate upon the right side, in spite of the difficulties of that route. A vertical incision, 14 cm. (5.5 in.) in length, was made between the right scapula and the spinal column. The angles of the ribs were exposed. Sections were removed from the fourth, fifth, and sixth ribs, 5 cm. (2 in.) in length. Through the window thus made the fingers could be introduced, and the separation of the parietal pleura accomplished. When the fingers reached the lateral flank of the vertebræ, the coin was easily felt. The pleura was stripped from the vertebral column without difficulty, but when attempts were made to separate the pleura and esophagus, they failed because the esophagus was lifted with the pleura, away from the vertebræ. The coin could no longer be felt, and as the condition of the child did not admit of longer operative interference, the wound was tamponed. Twelve days later it was decided to make another effort to get at the coin, but before doing so a Graefe basket was passed into the esophagus, and this extracted the coin without difficulty.

In considering the relative advantages of right or left thoracotomy in accidents of this character, it is necessary to remember that foreign bodies in this part of the esophagus almost always lodge opposite the fifth, sixth, or seventh dorsal vertebra. The esophagus will have to be uncovered by touch and not by sight, and at a depth of three or four inches. On the right side the pleura begins at the sixth vertebra to invaginate itself between the esophagus and the spine and this invagination grows deeper till the esophagus passes into the stomach at the tenth vertebra. On the left side there is no such invagination, as the aorta intervenes, and in spite of the fact that this vessel has to be passed over the operation upon the left side is thought by Forgue to be more easily carried out. This is also the opinion of some of the anatomists who have studied the subject, while others have held the opposite view.

REDARD considered that radiographs are of the greatest assistance in the treatment of Pott's disease as they show the extent of the lesions, the presence of cold abscesses, and the exact position of the bones. They also show the progress which is made toward recovery under the treatment adopted. In short they give in the living most of the information which one is able to obtain after death by anatomopathologic investigations. In the treatment of scolioses radiography is equally valuable.

FROEHLICH, who had opportunity to study twenty-six cases of Pott's disease in nursing children, found that the lesions were situated in the first and second lumbar vertebræ in twenty-two of the twenty-six infants. In only four, was there an abscess. The prognosis is better than in older children, only four of these having died. Persistence of the symptoms is also an exception. The disease had a duration of between one and two years. In its early stages the trouble is not easy to recognize. When paraplegia arises, it may lead one to think of infantile paralysis, but in Pott's disease there is never a reaction of degeneration, and the paralysis, which is incomplete, is confined to the lower extremities. There is rigidity of the spinal column. In rachitis, inability to move the limbs is due to the pain in the bones on pressure, and this will serve to distinguish it from Pott's disease. If Pott's disease begins with a boss, it may be very hard to tell it from a kyphosis occurring in rickets, though in the latter the kyphosis is usually dorsolumbar, and there will be signs of rickets elsewhere in the body. For infants under one year, the best treatment consists in fixing them upon a board in an attitude of marked lordosis. For those over one year a plaster jacket may be applied in such a manner as to permit of its removal. Of these 26 patients, 4 died, 10 were still under treatment at the time of report, and 12 were cured.

ROUX reported upon the past two years in gastro-intestinal surgery. He spoke of the hopeful sign that patients, whether from a physician or not, come much earlier than formerly to the surgeon. In consequence there are fewer hopeless cases, and instead of having to reject 36 per cent. of applicants as beyond the help of surgery, he had only 4 such patients in the two years referred to. Pylorectomy for cancer was performed 12 times with 3 deaths (25 per cent.). Gastro-enterostomy by the Y-method was performed 31 times with 3 deaths (10 per cent.). Posterior Y-shaped gastro-enterostomy with three planes of suture is not a dangerous operation. In 24 non-malignant cases, it was performed without a death.

GALLET performs gastro-enterostomy in the following rapid manner: A loop of the jejunum is selected and stitched to the stomach along one edge. It is then opened and the halves of a Murphy button are passed on clamps into the ascending and descending portions of the loop of jejunum, and pressed together through its walls. This procedure takes scarcely two minutes, and avoids the stoppage of bile in the ascending part of the loop. The gastro-enterostomy is then completed, and afterward the ascending part of the loop of jejunum is divided between ligatures and each cut end invaginated and sutured. The whole procedure should not occupy more than thirty minutes.

JORDAN said that Murphy's buttons are employed in Czerny's clinic as frequently as possible, as they reduce the time of operation by about one-half. It is considered dangerous to use the button in connection with the

[1] The first part of the proceedings was reported in the MEDICAL NEWS for December 3d, p. 736.

large intestine. Gastro-enterostomy had been practised 83 times, the posterior method being employed in all but 5 of these cases. The mortality was 12.5 per cent.

TUFFIER'S mortality after pylorectomy was thirty-three per cent. For gastro-enterostomy he preferred the posterior method whenever it was possible to bring out the stomach.

MONPROFIT performed gastro-enterostomy nineteen times, and had only two deaths (ten-per-cent. mortality) as a result of operation. He favored the posterior method of Von Hacker.

REVERDIN read a paper upon "The Surgical Treatment of Goiter." In cases with moderate interference with breathing anesthetics may be used as in other operations, but in retrosternal cases and in all cases in which the breathing is much hampered, general anesthesia should be avoided and the operation done by means of Schleich's cocain anesthesia, and with as little of that as possible. Statistics were given of 6103 operations for goiter, with a total mortality of 2.88 per cent. If only uncomplicated cases are considered, the mortality is almost nil. Extra-glandular enucleation has a mortality of 0.78 per cent.; partial extirpation, one of 3.5 per cent., and resection according to Mikulicz, 6.7 per cent. Total removal of the gland has a mortality of 18.9 per cent. and ought never to be performed. In after-effects enucleation is far superior to any other operation, as may be naturally supposed since it does not sacrifice healthy gland-tissue. It is the operation of choice and should be performed whenever possible.

SOCIN never uses ether in operations upon the trachea and larynx. When operating upon goiter he uses cocain when possible; otherwise chloroform. He attributes the deaths after the operation to the use of chloroform in many instances. In his last 200 operations he had only one death, from hypostatic pneumonia. One hundred and seventeen of these operations were enucleations.

ROUX had operated 526 times, using cocain whenever possible, as the operation is less bloody, more easily performed, and less dangerous from the fact that the patient shows at once when the trachea is drawn upon or injured, and thus more than once tracheotomy has been avoided. It is interesting to note, however, that pulmonary congestion was just as common after operations done with cocain as when a general anesthetic was used. Of the 235 patients operated upon since a previous report, only three died, giving a mortality of 1.27 per cent.

GIRARD reported 545 operations and only six deaths, a mortality of 1.1 per cent.

SCHWARTZ has operated upon more than one hundred patients for enlarged crural veins, either uncomplicated or in the presence of ulcers, phlebitis, etc. Only one patient was lost, and she apparently died of heart trouble. No pulmonary embolism could be found. It has been demonstrated that varicose ulcers readily heal after the ligation of the saphenous vein. Schwartz carries the operation further, and advocates the removal of phlebitic varicosities, first tying the veins above, to prevent embolism.

SOCIETY PROCEEDINGS.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Regular Meeting, Held November 28, 1898.

THE new President, DR. S. O. VAN DER POEL, delivered his inaugural address, taking for his subject

MEDICAL ASPECTS OF LIFE INSURANCE.

He said, in part:

Life insurance is a matter of interest to a great many members of the medical profession and hence requires no apology in forming the subject of an address before a general medical society. While not originally an American institution, it has in this last decade or two made wonderful extension among us. American enterprise took the insurance system that the English had made and kept up for a few select lives and made of it a thing for the millions. With this extension large numbers of the medical profession were necessarily drawn into closer relations with it.

The insurance examiner, however, approaches a case from a very different point of view from that of the practitioner. It is prognosis, not diagnosis, that he wishes to get the material for. It is a mistake, that the novice in the insurance line often makes, to approach a case with the habit of mind that refers everything to diagnosis. Prognosis is a much more difficult problem; its more exact study in recent years has allowed of the acceptance by insurance companies in England of risks on damaged or "substandard" lives. Muirhead of Edinburg has especially distinguished himself in showing the scientific bases on which the expectancy of life in these cases can be reckoned, in order to assure the company against loss when a series of risks are taken. People suffering from valvular heart lesions, from gout, asthma and the like, can under certain restrictions and a correspondingly increased premium now take out English policies. Such risks have been absolutely refused so far in America, except for short terms on the endowment plan. Recently, however, Dr. Oscar H. Rogers of New York, after a most careful collection of statistical material in the matter (as yet unpublished), has demonstrated that the benefits of life insurance may be extended to these substandard lives without loss to the companies. Insurance companies have been too much blamed in the past for refusing to assume risks on applicants who were not up to the standard, but their position is an extremely difficult one. While it may seem that at thirty a man with cyclical albuminuria is in as good health, apparently, as another without it, who can give any assurance that it will be so twenty years later? The increased amount of observation required for the settlement of difficult problems of prognosis on practical scientific bases will undoubtedly redound to the good of general medicine. Just as the adoption of life insurance by Americans has led to its present wonderful development, so the adoption of this new feature will undoubtedly result in extension of life insurance along new lines.

DR. W. H. THOMSON then read a paper on

CUBAN MALARIAL FEVER,

which will be found on page 777 of this issue of the MEDICAL NEWS.

DR. ROBERT L. WATKINS followed with a short paper, fully illustrated by stereopticon views, on

THE CUBAN FEVER PLASMODIUM,

an abstract of which appears on page 781.

In the discussion which followed these papers DR. WICKES WASHBURN asked leave to state the condition just after being landed from the transports of some of the patients who had later been under treatment by Dr. Thomson.

A number of them were under his care at Montauk Point. A sample of the conditions in which they were received at the camp would be about as follows: One afternoon it was announced by a mounted officer who had ridden up in hot haste, that a number of sick soldiers were on their way to the hospital. Before any arrangements could be made for their reception they arrived. About seventy-five in number, they had been packed into stages, and for lack of room had been persuaded into making an effort to sit up. The day was terribly hot and sultry, the roads dusty and uncomfortable, the ride long, at least for sick men. One by one weakness had overcome them and they had sunk helpless upon the bottom of the stages. No one was able to help his neighbor because of his own weakness. Not a dozen men out of seventy-five had not sunk into collapse. Despite their weakened condition and the severity of their infection, however, all of them except one eventually recovered. This incident gives a good illustration of the terribly unfavorable conditions the medical men at the camp, but very limited in number at that time, had to deal with.

Temperatures in the cases, probably owing to the great prostration among the men, ran very high. Above 104° F. was not unusual, and 105° F. and even higher was frequently seen. Despite this high temperature, quinin acted, as a rule, very promptly and effectively. Fifteen grains administered to men having almost a continuous temperature of 104° F. brought it by the next morning down to 100° F., and, repeated soon, led to normal temperatures. Relapses, however, were not infrequent. This was not surprising, as most of the cases were complicated by other affections. Dysentery or slighter diarrheic conditions, catarrhal jaundice, dyspeptic troubles, and, finally, that extremely important ailment in the young soldier, homesickness, all acted as depressing agents which lowered very materially resistive vitality and delayed that recuperative reaction that one expects to find in the young.

It was difficult, too, to have the men take their medicines after symptoms had subsided, so that he was not surprised to hear of the men later sinking in the streets or being taken with the disease at their homes after their discharge from the hospital. Besides quinin in the ordinary way Dr. Washburn had tried the bimuriate of quinin and urea, by subcutaneous injection, and had had excellent results from it. It was especially useful in the cases complicated by diarrhea, in which the irritant effect of the quinin on the already irritated intestines contraindicated its administration by the mouth, and in which, besides, the giving of it in this way was unsatisfactory because of the uncertainty of how much would be absorbed.

DR. J. F. CHMELICEK said that his experience with more than 600 cases of Cuban malarial fever enabled him to confirm Dr. Thomson's opinion as to the advisability of administering quinin with some one of the spices, ginger, pepper, or capsicum. He has especially found that small doses of the essential oil of pepper have the effect of making the quinin less irritating to the stomach and of hastening its absorption, as well as of rendering its absorption more complete. With regard to perforation in typhoid fever, his experience is also confirmatory of that of Dr. Thomson. It is in the ambulatory cases, when the patients keep on their feet well into the second week of the fever, or even longer, that perforation occurs most frequently.

In conclusion, Dr. Thomson said that the main thing he wished to insist on as the result of his experience with the estivo-autumnal type of malaria, as he saw it at the hospital this fall, is that it frequently does not yield to quinin, and that some other active remedial agent needs to be combined with it. In all cases in which the disease failed to present definite paroxysms quinin alone was ineffective. The remembrance of this fact makes the way clearer for the clinical therapeutist.

THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Proceedings of the Eleventh Annual Meeting, Held at Memphis, Tenn., December 6, 7, and 8, 1898.

FIRST DAY—MORNING SESSION.

THE Association met at the Gayoso Hotel under the presidency of DR. RICHARD DOUGLAS of Nashville, Tenn.

Prayer was offered by BISHOP GAILOR.

DR. ALEXANDER ERSKINE of Memphis delivered an Address of Welcome on behalf of the local profession, which was responded to by PRESIDENT DOUGLAS.

After the disposal of routine business, the scientific session was opened with a paper by DR. WILLIAM E. PARKER of New Orleans, La., entitled

GUNSHOT WOUNDS.

He described the hospital conditions in Cuba and the wounds seen by him made by the modern bullet. He spoke of some experiments made under the direction of Major and Surgeon L. A. LaGarde of the regular army, as to the relative penetrating powers of the Mauser, Krag-Jörgensen, and Springfield rifles. With ammunition of the years 1896 and 1897 the Mauser, fired at a distance of three feet from the muzzle into seasoned yellow-pine posts, would penetrate thirty-four plus inches. With ammunition of 1895 it would penetrate thirty-two plus inches; with ammunition of the past year, the Krag-Jörgensen, fired at the same distance, would penetrate twenty-four plus inches, and the Springfield would penetrate but five inches; yet many lodged Mausers were

found, and he was told by the Spanish chief-surgeon that but six lodged Krag-Jörgensens were found by them.

In speaking of wounds of special regions, he said that flesh wounds, as a rule, healed under one dressing. In the few cases that did not the sloughing was at the points of entrance and exit, and not along the whole track of the bullet. Explosive effects were not seen by any of the surgeons. He stated that he had hoped to present some statistics as to the wounds of the war, but they could not be had. Wounds of the brain did well. He had heard of at least five patients who were still alive and doing well. But one patient with a wound of the spinal cord was operated upon, and he was doing well. This patient had paralysis of both legs and of the bladder and rectum. Some spicules of bone had been removed from the cord. At the present time the patient has perfect use of the right leg and partial use of the left, and has perfect control of his bladder and rectum. He said that while he had not in any way modified his opinion that laparotomy should be done for abdominal wounds in civil life, that with the small modern bullet and lack of proper facilities this operation should not be attempted in the field unless there should be symptoms of hemorrhage. About fifty per cent. of these patients recovered without operation. Chest wounds did well, and caused but little trouble. When nerves were injured, nerve suture was not attempted on account of the rush of work, but he thought it should be attempted as soon as possible. None of the hospitals had a sufficiently large number of surgeons or hospital-corps men, but he spoke of the efficiency of those who were there.

DR. F. W. MCRAE of Atlanta, Ga., followed with a paper on

PENETRATING WOUNDS OF THE ABDOMEN, WITH REPORTS OF CASES.

At the outset, the essayist referred to a resolution passed unanimously by the Association at its Nashville meeting in 1896, to the effect that in all cases of penetrating wounds of the abdomen, it is the duty of the surgeon to make an exploratory incision so as to definitely determine whether the viscera have been injured or not. Since then a few able surgeons have dissented from this opinion. The propriety of surgical interference in cases of penetrating gunshot wounds of the abdomen will depend on one of three things: (1) The general condition of the patient; (2) dangerous internal hemorrhage; (3) wounds of the stomach or intestines large enough to permit extravasation.

Dr. McRae quoted from contributions to this subject by Senn, Nunez, Winslow, Budinger, Vaughan, Woolsey, Robson, Chaubel, Michaux, Klemm, etc., and said from the conflict of opinion and advice given by these and various other surgeons, one is at a loss to know just how to proceed in many cases. His own convictions, based on sixteen cases which he narrated, are positive. While he has the greatest admiration and respect for the surgical opinions of Senn, he should be recreant to his convictions were he to accept the proposition of non-interference laid down by Senn in his recent contributions to the subject. In most of the cases which have come under his observation where grave lesions of the abdominal viscera have existed, the symptoms of internal injury were practically *nil*, and the positive signs of grave damage almost entirely absent.

In conclusion, he reiterated his firm conviction that every case of penetrating wound of the abdomen, where there is a reasonable doubt as to injury of the abdominal viscera, should be subjected to at least an exploratory operation. This enables the surgeon to either be absolutely sure that no injury has been done to the viscera, or to repair, as far as possible, such injuries when they exist. The mortality following a simple exploratory operation *per se* is so small as not to weigh against the much greater mortality that necessarily follows the expectant plan of treatment. In the cases he had seen the general and local signs have been so misleading and enigmatical that prior to the operation a conclusion on his part as to internal conditions would have been entirely guess work.

THE PRACTICAL MANAGEMENT OF BULLET WOUNDS OF THE ABDOMINAL VISCERA.

This paper was read by DR. HORACE H. GRANT of Louisville, Ky. Observation and experience with operators coming frequently in contact with this lesion have determined that penetrating wounds of the abdomen demand laparotomy at the earliest possible moment after diagnosis and thorough inspection of the entire region endangered. It is established that not only is the mortality in untreated wounds of the abdomen almost one hundred per cent. where the intestines are perforated, and very high in wounds of the solid viscera, but it becomes less promising every advancing hour, until by the second day peritonitis sets in and destroys the hopefulness of the prospect. Within the past two years the speaker had operated in four cases. In each case the patient was seen early; in no instance later than four hours. In three resection of the intestine was necessary. Three of these patients recovered; the fourth died from septic peritonitis due to the escape of a large quantity of fecal matter before operation. Autopsy disclosed a perfect intestine.

These three papers were discussed together.

DR. W. L. ROBINSON of Danville, Va., said he has seen a good many cases of gunshot wounds of the abdomen, and nearly all of the patients died either with or without operation. Early operative interference might have saved some of them.

DR. G. S. BROWN of Birmingham said he knew of several cases of gunshot wounds of the abdomen that occurred in and around Birmingham, the patients recovering without operation. Personally, he had operated on five patients, one of whom recovered. In this case there was no perforation of the intestine. Undoubtedly diarrhea and starvation, mentioned by Dr. Parker in his paper, have something to do with the favorable results. The intestines are most liable to be perforated when full.

DR. WILLIS F. WESTMORELAND of Atlanta said the results of gunshot wounds of the abdomen on the battlefield should not be compared with those met with in civil life. It is not a question of operating, so far as fatal re-

sults are concerned, but the manner in which the operation is done.

DR. W. E. B. DAVIS of Birmingham thought that Dr. Parker's paper was not an argument against operative procedures for abdominal wounds. Surgeons on the battle-field do not have the same facilities for operating on penetrating wounds of the abdomen that they do in civil practice, and which are necessary for the proper care of cases. If a man sustains an injury to the intestine, if his abdomen is not opened death may be expected. In the case of twenty or more patients operated on by him and his brother, all died who were seen twenty-four hours after the injury. This is not an argument against operative interference, but against late operation. Statistics impress surgeons with the importance of early operation.

DR. GEORGE A. BAXTER of Chattanooga believes it is not necessary in many instances to open the abdomen in cases of gunshot wounds, and cited a number of cases of recovery without operative interference.

DR. JOHN T. WILSON of Sherman, Texas, advocated early operation in cases in which the surgeon is convinced that perforation has taken place. The character, technic, and rapidity of the operation are very important. In operating, the intestines should be exposed as little as possible.

DR. W. L. RODMAN of Louisville said that while he has pursued the practice of operating in penetrating gunshot wounds of the abdomen for the last ten years, after hearing the paper of Dr. Parker and reading the recent contributions of Senn and others, he wondered whether he as well as other surgeons may not have gone too far in operating in so many of these cases; at the same time, he does not wish to be understood as advising a masterly inactivity when the environments for operative interference are favorable.

DR. WESTMORELAND said that given a case of perforation of the intestines, particularly where there is extravasation of contents, instead of being masterly inactivity it is criminal inactivity for a surgeon not to operate.

DR. PARKER, in closing the discussion on his part, said that he had tried to make a clear distinction between the plan of treatment of gunshot wounds of the abdomen met with on the battle-field and those encountered in civil life. He is strongly opposed to laparotomy on the battle-field on account of the conditions that exist. In civil life, however, the thing to do in cases of gunshot wounds of the abdomen is to get in and out of the belly as soon as possible consistent with good work.

DR. MCRAE believes that a large proportion of the operations undertaken late for gunshot wounds of the abdomen will terminate fatally.

DR. GRANT stated that practically all patients operated on after twenty-four hours perish. It is impossible to diagnosticate perforation of the intestines with any degree of certainty. If a patient is seen within eight or ten hours after the receipt of a gunshot wound of the abdomen, under favorable surroundings, whether the bullet has penetrated the intestine or not, the skilful surgeon will not hesitate to make, at least, an exploratory operation, because it will not hurt the patient, but will probably save his life.

AFTERNOON SESSION.

DR. W. D. HAGGARD, JR., of Nashville, Tenn., read a paper, entitled

A PLEA FOR THE MORE CORRECT APPLICATION OF THE EMMET METHODS IN PLASTIC SURGERY.

The pioneer work of Sims was feelingly referred to. It is a unique circumstance in the annals of surgery that the instruments which made the feat of Emmet possible, and the fundamental principles of his success have remained unchanged. It is not so much the truth of homage to unprecedented genius, as the truth of the great principles he enunciated, and the perfection of his devices. The extension of the method of Sims in fistula to injuries of the adjacent soft parts was made by Emmet. The evolution and perfection of the operation on the cervix was traced. Dr. Haggard described the mechanics of the production of rectocele associated with the common transverse tear of the posterior vaginal wall involving the pelvic fascia, which is the essential pathology in this injury. The rational correction of this complex condition then would be not to sew the labia together, which is the popular procedure in one class of operations, nor to denude an arbitrary area of fanciful shape on the rectocele and bring the edges of the raw patch together, after the fashion of another class. It would rather be in the language of Emmet "to catch up the retracted pelvic fascia at such a point and in such a manner as to take in the slack, as it were, of the fascia throughout the pelvis." By this procedure the displaced posterior vaginal wall is certainly lifted up and drawn forward in contact with the vesicovaginal septum. As the steps of the operation advance the displaced anus is lifted upward and forward, the everted tissues at the vaginal outlet gradually rolled in and the separated levator ani muscles brought together. He accentuated the essential features in detail. The classical operation for the complex tear of the perineum is more amenable to pictorial description and he believes it more generally understood. He minutely depicted it.

THE TREATMENT OF COMPLETE RUPTURE OF THE PERINEUM BY DISSECTING OUT THE SPHINCTER MUSCLE AND ITS DIRECT UNION BY BURIED SUTURES.

DR. HOWARD A. KELLY of Baltimore, Md., read a paper on this subject, in which he said the results of the best methods of the treatment of complete tears of the perineum are not entirely satisfactory in a large percentage of cases. The control over liquid motions and flatus are, as a rule, not secured immediately, and it is usually necessary to encourage the patient by telling her that she "will have to learn to control the muscle in the course of time." Such a control, more or less perfect, is gained in the course of several months. This defect in our present procedures is due to a faulty approximation of the sphincter ends which lie buried in a pit, and are, therefore, difficult to bring into accurate, firm apposition by sutures embracing a considerable quantity of tissue surrounding the sphincter ends. Dr. Kelly proposes, therefore, the deliberate dissection and freeing of the sphincter

ends, drawing them out about one and one-half centimeters from the tissues, cutting off the scarred ends, and effecting a direct union of the freshened ends by two or three buried catgut sutures. He was led to do this operation by his experience in a case which had been operated upon six times with a result, which, judged by superficial appearances, was perfect, and yet the patient had no control over her bowel functions. He made a semilunar incision around the anterior periphery of the anus, and found the right sphincter end buried in scar tissue in the median line, while that of the left side was ectopic and attached out under the ischial tuberosity. The sphincter ends were united directly by buried catgut sutures, and the skin wound closed and union took place *per primam*. In addition to these buried catgut sutures a splinting suture of silkworm-gut is passed through the middle of the sphincter near the edges of the wound, and on up through the septum, splinting the ends together, and taking the tension off the catgut. He has since taken the hint given by this case and adopted a similar procedure in six cases of complete tear of the perineum due to confinement. Two additional patients were operated upon by Dr. W. W. Russell and one by Dr. Ramsay. In each instance there was a surprising difference between the new and older methods, noted at once in the earlier stages of the convalescence, and the patient was immediately conscious of perfect control of her functions. The bowels should never be locked up.

Great care must be taken not to leave any dead spaces in closing the remainder of the wound in the usual way in order to avoid all risk of infecting the buried sutures. He only recommends this operation to those who possess considerable skill in doing plastic operations, and in securing a snug, accurate adaptation of the parts.

In the discussion DRS. GEORGE H. NOBLE of Atlanta and J. WESLEY BOVÉE of Washington, D. C., added their testimony to the usefulness of the method described by Dr. Kelly, certain features of the technic of which they modified.

(To be continued.)

REVIEWS.

A MANUAL OF HYGIENE AND SANITATION. By SENECA EGBERT, A.M., M.D. Illustrated. Philadelphia and New York: Lea Brothers & Co., 1898.

THE work before us, which the author states is written with a view to "give a plain statement of the fundamental principles and facts of hygiene and sanitation, . . . based on American practice," fills a long felt want, for several reasons. First, books of this nature are very often too technical for every medical practitioner, for, as a rule, they embody many details of engineering which are somewhat foreign to the usual studies of medical men. Secondly, works of this description are either too cumbersome or not sufficiently explicit for general use.

We find the subjects of air, food, and water treated in a most comprehensive manner. The chapter on ventilation and heating might convey to the intelligent laity many interesting facts which could be advantageously employed, especially at this season of the year. The subject of filtration of water is ably treated and is accompanied by very good illustrations of apparatus employed, both in private as well as in city supplies. We find, further, such essential subjects as personal and school hygiene, and the removal and disposal of sewage most admirably discussed.

The book is prefaced by an interesting history of hygiene as a science. The illustrations scattered through the text, which are carefully selected and well reproduced, make the book more interesting to the reader, and a complete index enhances the value of the volume as a handy-reference work which might find a place in any professional or private library.

AN EPITOME OF HUMAN HISTOLOGY. For the use of Students in connection with lectures and laboratory work. By ARTHUR W. WEYSSE, A.M., Ph.D., Instructor in Biology, Massachusetts Institute of Technology, Boston. New York, London, and Bombay: Longmans, Green, & Co., 1898.

THE author states distinctly that this is not a text-book and that it is not intended "for those who have neglected their work and are anxious to acquire in a few hours, facts enough to pass an examination." The purpose of the book is to give to the student a brief, yet clear and definite, sketch of all the necessary data in the study of human histology, so arranged and classified that in a short time he may easily recall and memorize the lessons taught and studied. The subject is arranged and presented in a masterly manner, and cannot fail to be appreciated by every student. All of the recent advances made in histology have been recognized and incorporated and the book as it stands is a good example of our knowledge in this branch of medicine.

The book contains ninety pages, nearly twenty of which are devoted to a very full index, and is printed on very good paper. The binding is a serviceable one.

THERAPEUTIC HINTS.

For Ringworm of the Scalp.—PERKINS of London has achieved excellent results even in old chronic cases by the use of common salt. The salt, finely pulverized, is mixed with a small amount of vaselin and rubbed twice a day into the affected area (previously shaved). An eschar generally forms after two to four days of this treatment, which is then discontinued, a simple ointment being substituted. The surface then cicatrizes over and the hair begins to grow in normally.

Douche for Gonorrheal Vaginitis.—

℞	Aluminis, Sodii boratis	aa	ʒi
	Quininæ sulphatis		gr. xv
	Ac. carbolici, Ol. thymi	aa	gtt. xxx
	Glycerini		ʒvi.

M. Sig. For vaginal douche. One tablespoonful in a quart of hot water 2 or 3 times a day.—*Lutaud.*

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXXIII. NEW YORK, SATURDAY, DECEMBER 24, 1898. NO. 26.

ORIGINAL ARTICLES.

A STUDY OF SIXTY CASES OF LOBAR PNEUMONIA OBSERVED IN BELLEVUE HOSPITAL, NEW YORK.[1]

BY A. ALEXANDER SMITH, M.D.,

OF NEW YORK;

PROFESSOR OF PRINCIPLES AND PRACTICE OF MEDICINE AND CLINICAL MEDICINE IN THE UNIVERSITY AND BELLEVUE HOSPITAL MEDICAL COLLEGE.

THE cases on which these studies are based were observed in the wards of Bellevue Hospital. As occurs in all large charity hospitals most of the subjects were in an unfavorable condition to tolerate any serious disease. All cases, even of those patients who were moribund when brought into the hospital were included. Five of these died within twenty-four hours after admission, two being cases of septic postpartum, one a case of cancer of the pancreas, stomach, liver, and intestinal glands, and two were suffering from pulmonary edema. One case was that of a pregnant woman brought in during labor, the patient dying within half an hour after admission. Almost all of the patients gave a history of having been badly housed, insufficiently clothed, and poorly fed, and most of them were subjected to great exposure in their occupation. As will be seen in the summary, a large proportion of them were addicted to the use of alcohol to a greater or less extent. As an example of the conditions under which they were living before admission, five of the patients walked to the hospital after the beginning of their illness, two of them on the second, and two on the third day. In two instances of these the temperature was between 105° and 106° F. when the patients were admitted. One of these patients walked in the night a distance of two miles, another a distance of a mile and one-half, both on the third day of the disease, to reach the hospital. Of these five patients who walked to the hospital, too died soon after admission from pulmonary edema; the other three recovered, the pneumonia in these three cases running a fairly regular, typical course.

It will be noticed that only two of the patients had pleuritic effusion as a complication, and in not one of the 60 cases did an empyema occur as a sequel, rather an unusual experience in 60 cases of pneumonia observed in hospital practice. Another unusual feature is that of the 9 patients more than fifty years of age only 2 died. Four who were between sixty and eighty recovered. The age of greatest mortality was that between thirty and fifty, 12 of the 17 deaths occurring between those ages.

As occurs in a very large proportion of the cases in large charity hospitals, complications or co-existing diseases were present in most of the cases, and in all but 1 of the 17 fatal cases. Several of the patients had been sent in to the alcoholic ward of the hospital and developed pneumonia after admission, whereupon they were transferred to the medical wards.

The highest temperature observed was usually on the day of admission to the hospital, due probably to the exertion and excitement attendant upon the moving of the patient. The highest temperature observed was 105.8° F., in a patient who had just been admitted. In two fatal cases the temperature at no time reached 102° F., but in these cases the pulse was rapid, feeble, and irregular from an early stage of the disease. Chronic nephritis was a very frequent complication and was present in five of the fatal cases.

Of the sixty consecutive cases of pneumonia treated in my service at Bellevue Hospital during the season of 1897–98, there were forty-two men and eighteen women. Of these seventeen died, being 28⅓ per cent.

Age.		Died.
Under 20 years	1	1
20 to 30 "	18	2
30 " 40 "	23	7
40 " 50 "	9	5
50 " 60 "	5	2
60 " 70 "	3	0
70 " 80 "	1	0
	60	17

Nativity.		Died.
United States	19	5
Ireland	23	8
Germany	6	1
Italy	4	1
Austria	2	0
England	3	1
Russia	1	1
Hungary	1	0
Scotland	1	0
	60	17

Occupation.		Died.
Housework	10	5
Laborers	15	4
Domestics	7	2

[1] Abstract of a paper read before the New York Clinical Society.

Occupation.		Died.
Porters	5	0
Peddlers	2	1
Butchers	1	0
Cooks	1	0
Ironworkers	1	0
Drivers	3	0
Brushmakers	1	0
Stablemen	3	1
Waiters	7	2
Bookkeepers	1	1
Horseshoers	1	0
Stenographers	1	1
Tailors	1	0
	60	17

Habits.—Alcoholics (marked), 38 (male 33, female 5); moderate drinkers, 14; temperate, 8.

Conditions Preceding the Attack.—Exposure, 22; exposure and heavy drinking, 14; debility, 4; following a "cold," 3; submersion in water after heavy drinking, 1; post-partum sepsis, 2; indefinite, not known or no history, 13; following fracture of ribs, 1.

Onset of Disease.—Chill with rigor, 23; chilliness, 24; doubtful, 9; no chill, 4.

Termination.—Crisis, 27; lysis, 19; died before determined or had complicating disease, 14.

Of 27 cases ending in crisis the crisis occurred on the fifth day in 2, seventh day in 14, eighth day in 1, tenth day in 1, and day not known (previous history indefinite) in 9.

Involvement.—Right lung entire, 1; right upper and middle, 1; right upper and right lower, 6; right lower and middle, 2; right and left upper and lower, 2; right lower and left lower, 2; wandering, right lower, right upper, and left upper, 1; left upper and left lower, 3; left upper, left lower, and right lower, 1; right upper, 7; left upper, 5; right lower, 13; left lower, 14; middle lobe, 2.

Of 12 apex cases 5 were fatal, and of these 5 fatal cases 4 patients were forty years of age or over. Of the five fatal apex cases 4 patients were markedly alcoholic. Of 29 cases in single lower lobes or middle lobe 7 were fatal.

Of the 60 cases recorded 23 patients had marked delirium. Of the 12 apex cases 8 patients had marked delirium. Of the 29 single lower-lobe cases 13 patients had marked delirium. Of the 12 apex cases 5 patients had other complications than delirium.

An upper lobe, with or without a lower lobe, was involved in 26 cases out of 60 and 8 deaths out of the total 17 occurred from these 26.

Albumin, at least a trace, was found in the urine of all the patients where opportunity for examination occurred except in 4 cases. One patient was six-months' pregnant and went to full term.

Cold compresses to chest in 10, to abdomen in 2 cases, every hour in the daytime, every two or three hours at night.

Of the 60 cases recorded 38 subjects were large consumers of alcohol. Of the 17 fatal cases, 14 patients were distinctly alcoholic, 1 was a moderate drinker, and the remaining two were women—one a septic post-partum (hopeless) case, the other chronic nephritis.

Of the 60 patients 22 had no complication nor marked delirium. Of the 17 fatal cases all but 1 patient had serious complications or coexisting diseases.

List of Complications or Coexisting Diseases.—Marked delirium, 23; chronic endocarditis, 2; typhoid fever, 2; tuberculosis, 3; chronic nephritis, 7; pregnancy, 2; pleurisy with effusion, 2; carcinoma, 1; post-partum sepsis, 2; pericarditis, 1; fractured rib, 1; erythema nodosum, 1.

Treatment.—All of the patients were given water to drink. Indeed, they were urged to take water very freely. During the acute stage the diet consisted chiefly of milk, broths, soups, jelly, and eggs, when the patient was able to take them. Kumyss and matzoon were also allowed. When pain was a marked feature during the first days of illness morphin was used sufficiently to relieve it. In some cases in which pleurisy was a complication and the pain severe adhesive-plaster straps were applied to the side to restrict movement. As most of the patients were alcoholic and delirium was a prominent feature, with wakefulness, hypnotics were used, but always with care, the choice of these depending somewhat upon the amount of delirium. In some of the cases 20 to 30 grains of chloralamid at night gave satisfactory results. In others a combination of bromid with moderate doses of morphin seemed to work more satisfactorily. Sulphonal and trional were also employed in the early stages in some cases and apparently produced no depressing effects, but, on the contrary, refreshing sleep resulted. Alcohol in the shape of whisky was used in a large proportion of cases, but more especially because the patients were alcoholic and on account of its sedative effect rather than as a cardiac stimulant. The quantity of whisky varied from 4 to 8 ounces in the twenty-four hours, but in a few cases this quantity was increased to 10 or 12 ounces.

Cathartics were used as indicated and as a routine practice in cases which were seen early in the development of the disease.

Of the coal-tar preparations, a combination of phenacetin and caffein was employed in some of the cases seen early in which there was severe headache, dry skin, high temperature, severe muscular pain, and marked restlessness. This was given in small

doses, phenacetin 5 grains and caffein 1 grain, and repeated every three, four, or five hours, the indication being the moderate reduction of temperature, if along with this reduction the unpleasant symptoms mentioned were decidedly relieved. This combination was not used in any instance after the third day. Digitalis was used only in cases in which there was valvular cardiac disease with predominant dilatation and because of this condition of the heart.

Strychnin and glonoin were used in a large proportion of the cases as a routine and from the beginning of the treatment. Strychnin was given in doses of from $\frac{1}{60}$ to $\frac{1}{30}$ of a grain every three or four hours according to the severity of the case and the effect produced. Glonoin was given every two hours in the daytime and every three hours at night in doses of $\frac{1}{60}$ of a grain.

Baths in the form of the bed-bath or sponge-bath were given in cases in which there was high temperature (above 103° F.) and marked restlessness. No plunge-baths were given. These baths were not given at regular intervals, but according to indications, *i. e.*, temperature of 103° F. and over with marked restlessness. The temperature of the baths ranged from 75° to 65° F. In ten cases compresses were applied to the thorax at a temperature ranging from 75° to 65° F., the indication being the same as for the giving of the bed-bath or sponge-bath. So special pains were taken in the fitting of the compresses. A sheet doubled four times was dipped in water at the temperature named and was then wrapped around the patient from the axillary region down to the hips. The temperature of the water varied with the temperature of the patient. The compress was applied to the thorax because this was the most convenient region and not because it was believed that it would produce any special effect upon the process going on in the lungs, but rather for its effect as an external application of cold. It was noticeable that in the cases in which the compress was applied there was at first objection on the part of the patient, but within twenty-four hours it would be asked for and welcomed. The compresses seemed to reduce the temperature, diminish the frequency and increase the force of the pulse, quiet the nervous system, and produce refreshing sleep. Almost invariably the patient said that he was more comfortable after the compresses had been resorted to.

In two instances, as a matter of experiment, these compresses were applied around the body from the lower part of the thorax down to the thighs, over an area corresponding in size to the thoracic region, with the result that they had the same effect as when applied over the thorax. It is simply a modification of the bath and seemed to act by stimulating the respiratory and circulatory centers, reducing temperature, and quieting nerve perturbation.

In cases in which pulmonary edema developed or in which cyanosis was a marked feature, inhalation of compound oxygen gave great relief. This was administered freely for from six to eight minutes at a time at intervals of from half an hour to two hours, depending upon the severity and persistence of these two symptoms.

A FURTHER REPORT ON SOME INTERESTING CASES OF VARIOUS FORMS OF ANEMIA.

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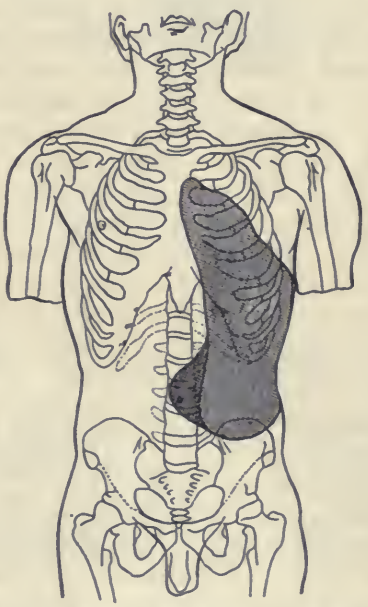
IN the MEDICAL NEWS for March 27, 1897, I published the histories of a number of cases of anemia, on the further progress of which I desire to report at this time. I also wish to record another case of considerable interest from a number of points of view. Perhaps the most interesting case, however,

FIG. 1.



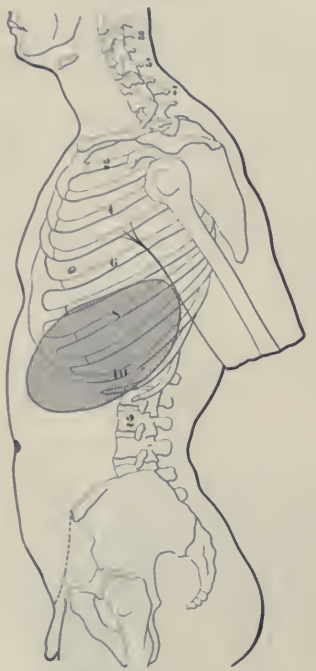
D. M. B. Splenomedullary leucemia. January 12, 1897. Slightly shaded portion shows area of cardiac and splenic dulness on percussion. The dark portion near the umbilicus shows the additional splenic area discoverable on palpation.

is that of D. M. B., who suffered from the splenomedullary form of leucemia, this report concerning him being fourteen months after the report already referred to, and nearly two years after he first came under observation. The report in the MEDICAL NEWS indicated an extraordinary improvement during the three months he had been under treatment,

the white cells decreasing from about 500,000 to 19,000, the red cells increasing from about 2,300,000 to 4,000,000, and the hemoglobin from about twenty-five per cent. to more than sixty per cent. The area of splenic dulness was also diminished to an extraordinary degree.

At the present time the patient is ruddy looking, has been at his work for nearly eighteen months, and is very healthy in his general appearance. His spleen is smaller than at the last report, as indicated in the drawings reproduced in this article, the latest having been made on March 31, 1898.

FIG. 2.



D. M. B. Splenomedullary leucemia. Size of spleen after fourteen months of treatment.

The examinations of this patient's blood, for which I am indebted to Dr. J. C. Da Costa, Jr., have been as follows in their results:

February 2, 1897: Hemoglobin, 67; erythrocytes, 4,000,000; leucocytes, 19,000; proportion, 1–210. February 16, 1897: Hemoglobin, 70; erythrocytes, 4,100,000; leucocytes, 80,000. March 3, 1898: Hemoglobin, 70; erythrocytes, 2,500,000; leucocytes, 44,000. Of the 44,000 white cells, 70.8 per cent. were polymorphonuclear cells, 6.8 per cent. small lymphocytes, 5.6 per cent. large lymphocytes, 2 per cent. eosinophiles, and 14.8 per cent. myelocytes. No transitional cells.

March 31, 1898: Hemoglobin, 82; erythrocytes, 4,800,000; leucocytes, 32,000. Of the 32,000 white cells 77.5 per cent. were polymorphonuclear cells, 4 per cent. lymphocytes, 8 per cent. large lymphocytes, 4.8 per cent. eosinophiles, 2.4 per cent. myelocytes, and 3.10 per cent. were transitional. Of the red cells there were 9 normoblasts, 25 megalocytes, and no poikilocytes.

The great difference in the white cells on the dates last named was not represented by the patient's appearance, as he seemed hearty and well, although he returned on March 3rd to make sure that he was not retrogressing, as he did not feel quite so well. On March 31st he expressed himself as feeling perfectly well, returning only because he had been directed to do so. He now considers himself perfectly well.

This case is extraordinary in that while all the symptoms were at one time very marked, his life and usefulness has been prolonged for a long time, and his health is so good. He has been using arsenic in full doses with some constancy, this drug having been of great benefit from the inception of his treatment.

The second case, that of splenic anemia, J. D., was referred to as follows in my original paper: "The large number of lymphocytes (eighty-four per cent.) in this case would apparently place it under the head of that somewhat rare type of leucemia called lymphatic leucemia, but there is an entire absence of enlargement of the lymph-glands, and, what is far more important, the increase in lymphocytes is purely relative, the total number of white cells being actually lower than normal. Aside from this state of the white blood-cells, the case might well be classed with what has been called pure splenic anemia, or splenic pseudoleucemia. Thus, we find the enlarged, and at times painful, spleen, the fact that the disease is commonly found at this patient's time of life, and in his sex, and that the anemic fever has also been present. Further than this, in splenic anemia we often have a decrease in the number of red cells to one-half, with a similar falling off in hemoglobin. Banti has regarded this state as a purely splenic form of pseudoleucemia, or Hodgkin's disease."

He reentered the wards of the Jefferson Hospital on February 22, 1898, and stated that after leaving the hospital he had continued taking ferratin three times daily, and attended the out-patient department until the following June. Then he stopped taking medicine, but did no work until July, when he resumed his vocation as barber, and had continued working at that until the day of admission. Since leaving the hospital he had felt entirely well until a week previously, February 14th, on which day he had quite a severe attack of epistaxis from the left nostril lasting about five minutes. On the same day he also felt pain and tenderness in the region of the

spleen. The epistaxis had recurred nearly every day since, sometimes coming on while in bed, and the pain in the splenic region had progressively increased in severity. During the previous week he had suffered from slight headache upon arising in the morning. During the previous three days the pain had been most severe in the median line about two inches above the pubes. He stated on the day of admission that he had had no headache, no epistaxis, and that splenic tenderness was not so severe as on the day preceding. His temperature was 98⅗° F., his pulse 86, and his respirations 22. The urinary examination on February 23, 1898, was negative. The blood examination on February 23, 1898, showed the color index 1.25, hemoglobin 40 per cent., red cells 1,620,000, white cells 7000. A differential count showed polynuclear cells 58 per cent.; small lymphocytes, 17 per cent.; large lymphocytes, 19 per cent; transitional, 2 per cent.; eosinophiles 2 per cent., and myelocytes 2 per cent. On February 28th it was noted that since entering the hospital he had had no epistaxis, and the splenic pain and tenderness had entirely disappeared.

In June, 1898, he again entered the wards, with extraordinary pallor, dyspnea, and splenic pain. His blood examination gave the following result: Polymorphonuclear cells, 66 per cent.; lymphocytes, 26 per cent.; eosinophiles, 4 per cent.; transitional cells, 2 per cent.; myelocytes, 2 per cent., and there were poikilocytes, macrocytes, microcytes, normoblasts, and gigantoblasts. The total hemoglobin was 25 per cent., red cells 1,800,000, and the white cells 7000. This man has now had a number of these relapses, but in each instance they have occurred after hard work, and he has recovered as soon as he had rest and good food. He has at no time been well, but has earned a living.[1]

The third case, that of F. R., is of considerable interest. As recorded in my earlier paper, already referred to, he entered the Jefferson Hospital in May, 1894. His family history and his previous history were good except that when he was twenty years of age he had had a severe attack of serous diarrhea, and that fourteen years before he had had croupous pneumonia, from which he made a good recovery. In April, 1893, he began to have nausea with occasional attacks of vomiting, with poor appetite, and his skin became quite yellow. Diarrhea also came on. At this time, after the temporary improvement in his condition, he progressively became worse, and on May 18th he presented a markedly anemic appearance, the lips and ears being almost bloodless, and the tongue pale. His temperature ranged from 99° to 101° F., and the respirations from 24 to 30. The conjunctivæ were infiltrated with a lemon-yellow fat, and there were numerous fresh and old hemorrhages into the retina. The veins and arteries of the retina could scarcely be distinguished on account of the pallor of the blood. There was a soft systolic murmur at the base of the heart and at the second left costal cartilage. In other words, the patient had every appearance of one suffering from pernicious anemia.

An examination of his blood revealed only 973,000 red cells and 7000 white, the hemoglobin being 15 per cent. A month later the red cells numbered 664,000, the white 5000, and the hemoglobin was 10 per cent. He was placed on ascending doses of arsenic, with the result that his blood steadily improved, so that on September 12th the red cells were 3,800,000, the white cells 10,000, and the hemoglobin 60 per cent. He was then discharged, in September, 1894, and went to work again in the pine forests of Pennsylvania, but was readmitted on August 28, 1896, with all his old symptoms present. An examination of his blood on September 1st showed 1,180,000 red cells, 5000 leucocytes, and 35 per cent. of hemoglobin. His blood progressively grew worse until September 22d, when it was recorded that he had 886,000 red cells, 3800 white cells, and 23 per cent. of hemoglobin. Full doses of arsenic and sulphate of iron improved his blood so that on February 18th there were 4,360,000 red cells. In the account of his case published in the MEDICAL NEWS for March 27, 1897, I said: "He presents every aspect of being cured, although the possibility of a fatal relapse is always to be remembered in this disease." In this connection the following letter, written under date of July 2, 1898, in reply to a letter of mine in regard to his health, is of very great interest, although no blood count has been possible owing to the fact that he lives at a distance from Philadelphia. This patient considers himself in good health more than four years after the time that he first came under observation. He writes:

"Yours of a recent date is before me, and in reply would say that I am very much improved from the time of leaving Jefferson Hospital, and weigh at the present time 205 pounds, the only apparent trouble at present being some soreness in chest and feet. If you could suggest any remedy for my feet and chest, please advise."

The fourth case, the patient ill with pernicious anemia (S. S. D.), died in November, 1897, having steadily failed during the preceding six months. No autopsy was allowed. His hemoglobin, which, on

[1] This patient presented himself in my office December 10th, and stated that he was quite well. His object in calling was to ask for "any kind of work."

February 24, 1897, was 35 per cent., fell to 28, then in another month had risen to 45 per cent., and a month later was 35 per cent. It fell finally to 20 per cent. His red cells fell from 2,250,000 to 1,108,333, then rose to 1,850,000, and then fell to 1,225,000. Poikilocytes were numerous, but normoblasts and megaloblasts were absent. This case simply illustrates the temporary improvement and final fatal ending of ordinary pernicious anemia.

The sixth patient (Case V.) died, and his case has already been reported.

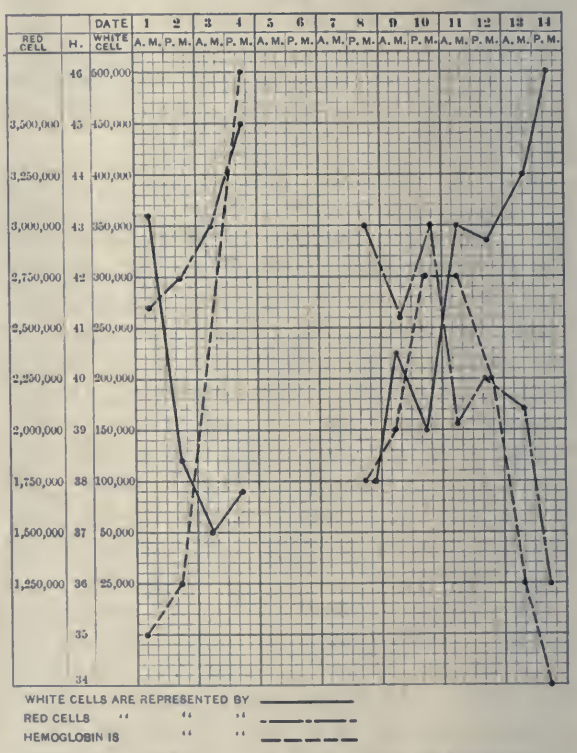
The last case I shall report in this paper has not been reported before. It is one of splenic leucemia. It is interesting because, being a private patient, he was under continuous observation for nearly fourteen months, and many blood counts were made. The autopsy, also, was of unusual interest.

A. B. C., aged forty-one years, came under my care in April, 1897. His family history was entirely negative. He had the usual diseases of childhood and enteric fever at nineteen, from which he made a perfect recovery. In 1881 he was greatly exposed to cold and wet, and suffered from subacute rheumatism of an articular type, which persisted more or less severely up to the time I saw him. The knees and ankles were the parts most involved. In 1883 he had a severe attack of croupous pneumonia, and since 1892 had had several attacks of influenza. In 1887 he contracted syphilis, but was treated for it rigorously for twelve months, and had no lesions except the primary sore. The patient had always used alcohol freely. In January, 1895, he began to suffer from pain in the left side in the splenic area, and began to lose weight in March, 1895, when the spleen was found decidedly enlarged.

On April 10, 1897, when first seen by me, the splenic and hepatic swelling was very great. His girth at the umbilicus was forty-two inches, and from the tip of the ensiform cartilage to the lower edge of the spleen in the middle line was fifteen and one-half inches. The right edge of the spleen reached four inches to the right of the median line at the navel. There was edema of both legs, chiefly the left, owing to the pressure of the splenic tumor. His pulse was 84, soft and compressible, and auscultation revealed a systolic murmur, soft in character and characteristic of anemia, at the aortic and pulmonary cartilages. The urine was negative. At this time his blood showed the following changes: Hemoglobin, 35 per cent. of normal; erythrocytes, 2,640,000 per c.mm.; leucocytes, 395,000 per c.mm.; lymphocytes, 10 per cent.; mononuclear leucocytes, 12 per cent.; polynuclear leucocytes, 60 per cent.; eosinophiles, 8 per cent., and myelocytes, 10 per cent. There was slight poikilocytosis.

From this time on examinations of the blood were constantly made, at times as frequently as once every week. The accompanying chart clearly indicates the results of these counts during a peried of fourteen months. It is interesting to note that under the use of ascending doses of arsenic and iron there developed a progressive improvement in his blood as to an increase in hemoglobin and red-cells, and a decrease in leucocytes. The lines on the chart show how the white cells decreased as the red cells and hemoglobin increased during the early months. While no counts were made during August, September, and October, he continued the treatment in a modified dosage, so that on his return to my care in November he was in fair condition. It is interesting to note, also, that as the red blood-cells fell in November the white cells increased, and when the large doses of arsenic were repeated and he was under their influence, the red cells and hemoglobin increased and the white cells decreased a second time. Finally, when, in January, he could no longer take full doses of arsenic because his stomach rebelled and his face became puffy, the white cells progressively increased, and the red cells and the hemoglobin greatly decreased until he died. With noteworthy constancy, in the entire progress of the malady the hemoglobin rose and fell with the red cells, and the white cells fell and rose in inverse ratio. A few days before his death the hemoglobin was twenty-eight per cent., the red cells 1,800,000, and leucocytes 706,000.

FIG. 3.



Blood chart of A. B. C. Fatal case of splenic leucemia.[1]

Notes of the Autopsy.—Body of an emaciated male, with rigor mortis moderately marked. The

[1] The names of the months during which the blood examinations were made should be substituted at the head of this chart for A.M. and P.M.—[ED.

abdomen was greatly distended, and there was edema of the feet, legs, penis, and scrotum. On making an abdominal incision, scarcely any subcutaneous fat was encountered; the muscles of the abdominal wall were very pale and friable. The abdominal cavity contained 2000 c.c. of clear yellow fluid. Beneath old scars on the abdominal wall were numerous peritoneal adhesions; these scars were the result of frequent tapping. The peritoneum was somewhat thickened and reddened, and more opaque than normal. The surface of the omentum was roughened, and scattered over its surface were numerous tumor-like enlargements of an average diameter of 1 mm. The lower margin of the liver in the right mammary line extended 5 c.m. below the costal margin; the upper margin extended to the upper margin of the fourth rib; the left lobe of the liver extended downward 10 cm. below the ensiform cartilage; the left margin of the left lobe extended to the left 5 cm. beyond the left nipple line. The lower border of the spleen extended downward to within 7 cm. of the symphysis pubis; the right margin extended to the level of the nipple. The stomach lay in the angle formed by the separation of the inner borders of the liver and spleen, which was on a level with and just to the right of the umbilicus. This viscus was, therefore, pushed downward, forward, and to the right of its normal position. The transverse colon was pushed downward and occupied a position just anterior to the stomach; the left half of the transverse colon lay beneath the lower border of the spleen, and was consequently much prolapsed. The right pleural cavity contained 100 c.c., of clear yellow fluid, but was otherwise normal, as was its fellow. The pericardium was normal, and contained 20 c.c. of clear yellow fluid. The heart was large and very flabby; the left side was slightly contracted. The heart substance was pale and moderately friable. The right auricle was punctured and cultures made from the blood. The small amount of blood which exuded was fluid and light in color.

The spleen was enormously enlarged. It weighed 5500 grams (about 14¾ lbs.). Its transverse circumference was 48 cm. (20 inches), and its longitudinal 86 cm. (34½ inches). The organ was decidedly notched on its inner and outer borders. Over its surface were numerous white scars of irregular outline and size. On section its substance offered great resistance to the knife, it being much tougher than normal. As regards color, the substance presented the usual peculiarities. In situations where scars occurred it was found that this tissue extended down into the substance of the organ; these masses of scar tissue were irregularly pyramidal in form, the apices extending toward the central portion of the organ; they had the appearance of the remains of old infarcts. The splenic substance for perhaps a millimeter around these areas was much redder than in other situations. The liver was enormously enlarged, weighing 6300 grams (approximately sixteen pounds, ten ounces). On section it was seen to be pale in color and of normal consistence. The adrenals were somewhat enlarged and darker in color than usual, the substance of normal consistence. The left kidney was displaced to the right, and lay in front of the spinal column, its long axis parallel to that of the spinal column. Over the surface of this kidney there were numerous cysts from .5 to 3 cm. in diameter. The substance was pale and quite tough. The pyramids were not well marked off from the cortical portion, which was somewhat diminished in amount. The weight was 250 grams. The right kidney, with the exception that there were no cysts on the surface, was in the same condition as its fellow; weight, 285 grams. The ureters were normal. The bladder contained a considerable quantity of opaque urine. Its walls were extremely thin, but otherwise the viscus was normal.

The stomach and intestines were normal. Within the entire alimentary canal dark, grumous masses were found, which were evidently more or less altered blood. Within the mesentery several enlarged lymphatic glands were found; they were generally of a uniform faintly reddish color, and contained but little fluid. In one instance, a gland was found, the substance of which was rather grayish in color, and scattered through its substance were numerous hemorrhagic areas.

A section of the right femur was made, and the bone was found to be very hard. The marrow was much firmer than usual, and was of a reddish-gray color. It seemed to be less firmly attached to the surrounding bone than usual.

Allowing for the temporary improvements seen in the life history of ordinary cases of splenic leucemia, this patient certainly greatly improved and finally held his own for a time under full doses of arsenic. This was shown in the patient's general health, by his blood, and was recognized by himself. While this disease is one with a necessarily grave prognosis, the fact that arsenic can so completely check its progress and improve the condition of the patient, at least for a time, is of great interest.

INTESTINAL OBSTRUCTION DUE TO INTUSSUSCEPTION AND VOLVULUS.[1]

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DR. EDWIN MARTIN, in a paper read before the Philadelphia Pediatric Society on November 9, 1897, stated that he was particularly impressed with the rarity of intussusception, as out of eight hundred personal communications sent out by him, most of them being answered, the returns brought him records of but fifty-four cases, and that men of the

[1] Read before the New York State Medical Association, October 19, 1898.

widest experience in surgery, medicine, and pediatrics reported that they had never seen a case. Such a statement is apt to be not only misleading as to the frequency of this disease, but also has a tendency to create an undesirable impression of diagnostic acumen upon the profession at large. It has been the fortune of the author to see four cases within a period of four-weeks' time, during February and March of this year, and three more cases within the three years preceding, while a typical chronic case came under his observation a number of years ago, and two cases, chronic in nature and due to malignant growths, were seen in the practise of a brother surgeon during the past year and a half; in addition two cases were reported to him during the first half of the year. Such a series of cases under the observation of a single operator tends to the belief that the disease is much more frequent than most authors admit.

Cases of intussusception may be classified according to their intensity after the manner of Raffinesque, as *ultra-acute*, death occurring in twenty-four hours; *acute*, terminating within the first seven days; *subacute*, lasting from two to four weeks, and *chronic*, lasting from three weeks to months before a fatal determination.

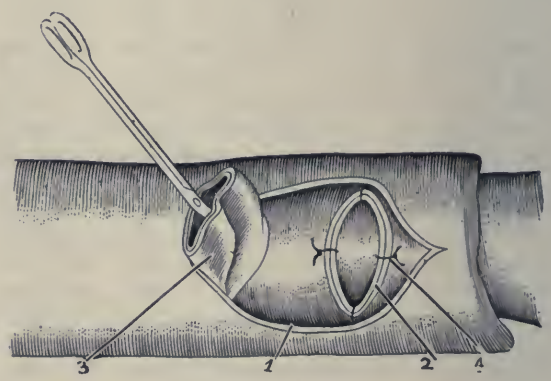
Intussusception is the cause of fully thirty per cent. of all cases of acute obstruction. The greatest proportion of cases of intussusception, fully fifty per cent., occur in children under ten years of age, and of these more than fifty per cent. occur in infants under twelve months. Between the ages of five and forty to fifty the number of cases diminish, and after forty or fifty the frequency of occurrence is again noted. This condition may be explained upon the grounds of periods of debility, occurring in infancy and extreme adult age.

Anatomically the following varieties of intussusception will answer: The *ileocecal*, in which the ileocecal valve forms the apex of the intussusception; *ileocolic*, in which it is made up of ileum and cecum passing into the colon, and the *ideal* or *enteric* variety made up entirely of small intestine. Of these the enteric is the most frequent. Very frequently upon autopsy intussusception is found that is due to post-mortem changes and not to any condition existing before the death of the patient. These cases can readily be excluded by their previous history.

The causative factors of intussusception are variously ascribed to former conditions of health or preceding physical conditions; conditions causing diarrhea; factors of a pathologic origin, and factors that originate in the anatomy of the intestine. Factors of an anatomic origin include long and lax mesentery, although the author has been unable to demonstrate the existence of such an anatomical condition in any of his cases. Another of the anatomic causes and the one receiving greatest weight is the musculature of the intestinal coats. These muscle-fibers, the longitudinal ones primarily and the circular secondarily, produce the intussusception through irregular peristalsis in the following manner: Contraction of the longitudinal fibers occurs with a retraction of a portion of the gut from below into the part undergoing the irregular peristalsis; after a time contraction occurs in the circular fibers when a grasping of the intussusception takes place, which may and frequently does continue to such a degree as to produce strangulation. It is this contraction of the circular fibers that prevents the reduction of the mass in the irreducible non-strangulated and gangrenous types.

Among the pathologic causes are tumors, usually of the internal coats, which by their weight produce

Fig. 1



Barker's operation.

1. Incised intussuscipiens.
2. Proximal end of intussusceptum.
3. Distal end of intussusceptum.
4. Suture in entering and returning gut.

the irregular peristalsis. These are chiefly polypi and endotheliomata; also imperfections in the intestines, as Meckel's diverticulæ. One case was reported by the author in the *New York Medical Journal* of April, 1898, the history of which is included in this paper. Another of these cases of Meckel's diverticulæ as the causative factor in this disease occurred recently in the practice of a fellow surgeon.

Under the preceding physical conditions, it is stated that a child of robust physique is less liable to suffer from this condition than one more puny and delicate. Our cases do not lend any weight to this argument, as we find that the majority were well-nourished children. Former conditions of health, barring a process which is accompanied by diarrhea or by a pathologic condition of the intestines, apparently cannot be considered as factors of any

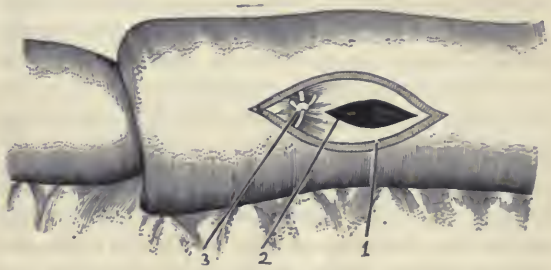
great importance, except in patients in whom debility is well marked, these having less resisting power to intestinal diseases. It would seem to the author that all conditions and factors which tend to produce diarrhea and vomiting are primarily the cause of the irregular peristalsis, excluding, of course, those cases classed as distinctly pathologic in origin, and these causes are changes of temperature, exposure of the abdomen, due to insufficient clothing during the day and improper protection at night; foodstuffs that disagree (and here we must include the artificial foods, as many children cannot take some of these without evil effects, as well as unripe or decayed fruits, tainted meats, etc.), and finally injudicious feeding by overloading the stomach, as seen in many children; also, insufficient precaution in preparing foods, etc.

The symptoms and signs of intussusception are pain, vomiting, tenesmus, blood in the stool or a bloody mucus dejection, restlessness, tumor, and later, manifestations of obstruction, peritonitis, and sepsis. Pain has been an ever-present symptom in the author's cases. The abdomen is tender to the touch, manifested by the patient if too young to speak by flinching or crying upon palpation. Vomiting has been present in but three cases and these were the cases of more than twenty-four-hour's duration when seen by the author. It is well to remember that in many of these cases the onset is frequently preceded by diarrhea and vomiting, so that in many of the cases in which vomiting was an early manifestation it may have been but an accompaniment to the pre-existing condition of health.

There may be, and frequently is, an evacuation of more or less extent, due to feces in the intestine below the seat of the intussusception. This evacuation is not accompanied by blood or bloody mucus. Later there are passages which consist of blood and mucus or may be largely composed of blood or mucus simply tinged with blood. The presence of blood is readily ascribed to the obstruction producing strangulation of certain parts of the vessels and increasing arterial and venous pressure sufficient to produce hemorrhage by diapedesis and even by rhexis. Tenesmus is frequently observed following the first few passages. The patient does not lie quietly in bed during the early hours of the disease, but is constantly tossing and moaning and continues doing so until the gut is reduced or until gangrene and sepsis are established. If after an injection the restlessness and moaning cease, *i.e.*, during the first twenty-four to forty-eight hours, it can be safely stated that reduction has taken place.

The proverbial sausage-shaped tumor cannot be found in all instances. In the case of three patients, operated upon by the author and palpated by most able diagnosticians, no tumor was to be felt through the abdominal wall, but the symptom-complex was so perfect of intussusception that abdominal section was performed and a tumor found. The reason was readily explained as in two cases the tumor was found well under the ribs in the left hypochondriac region and in the third well under the right lobe of the liver. Digital examination frequently proves the presence of this condition, as the palpating finger comes in contact with the mass in the rectum. In one of the author's cases, in which no tumor was palpated externally, it was thought that the very tip of the finger came in contact with a fold of intestine foreign to the anatomy of that part. This disappeared upon injection. The child became quiet and slept for eight hours, when it again became restless and had another pink mucus dejection. Nothing was felt upon digital examination but upon opening the abdomen the tumor was found in the left hypochondriac region.

FIG. 2



Paul's operation.

1. Incision through intussuscipiens.
2. Incision through intussusceptum.
3. Ligature above the metal tube.

Later the symptoms become aggravated, obstruction is complete, the pulse is rapid and feeble, and all the manifestations of peritonitis and sepsis are present.

The treatment consists of mechanical, expectant, and operative procedures for the relief of the intussusception. Under the mechanical methods we have the use of air and water distention of the bowel. The danger incurred in the use of air is an overdistention with rupture of the intestine. Little can be said in favor of this method of reducing the intussusception as it does not have the mass-like pressure action that is produced by the use of water. As the pressure cannot be gaged as easily as when using water, the method should be passed over at the present date. Enemata of water to be successful should be used during the first twelve or twenty–four hours, *i.e.*, before adhesions form, but in all cases of no matter what duration, it should be used first, bearing in mind the fact that the reservoir should not be more than four feet in height from the body

of the patient. These are best given with the patient in the inclined posture or suspended by the feet. Although water passes the ileocecal valve with great ease in the cadaver and has been demonstrated time and again as passing in the living, it should be borne in mind that enemata are prone to prove unsuccessful in cases in which the tumor is above the transverse colon. This is due to the fact that when the tumor is above the transverse colon, the effect of the water pressure is more of a pulling action upon the receiving gut than of a driving action upon the apex of the intussusception. Massage of the abdomen and the tumor, when found, should be done while the water is being introduced. Although the dangers of the use of water are similar to those of air, they are less prone to occur, owing to the weight pressure upon the apex of the tumor being followed more frequently by reduction than by the use of air. It cannot be too strongly stated that this type of taxis should not be used with any greater degree of frequency or duration than manual taxis in a strangulated hernia; for the conditions are certainly allied. Should the injection be followed by no result, operative procedure should be advocated as strongly as one would in a hernia that has not responded to taxis.

When pain is not severe, obstruction not complete, and tenesmus with bloody mucus not marked, the case can be carefully watched, as these are the cases likely to become chronic and later be followed by a spontaneous cure by sloughing off of the tumor. Certainly, with the present state of aseptic operative procedures, this method of treatment can never more be considered seriously. We know that these cases can never be claimed as true cures, owing to the likelihood of stricture formation following the sloughing process, and that they are very prone to be followed by obstruction demanding at a later day an emergency operation which is likely to have a more serious aspect than would the question of primary operation for intussusception.

The author cannot agree with those who state that children bear operations poorly, and is quite satisfied that when the cases are seen early, say during the first thirty-six hours, the chances for recovery of the patient are extremely favorable. One of the writer's cases of recovery reported in this paper, a child under seventeen weeks of age, was operated upon during the first thirty-six hours. Another, a child of four months and twenty-two days old, was operated upon during the first twenty-four hours. The relationship of recoveries between strangulated hernia and intussusception with regard to previous duration is very similar. The longer the duration, the greater the mortality, due in each instance to the same causes—shock, exhaustion, gangrene, and sepsis.

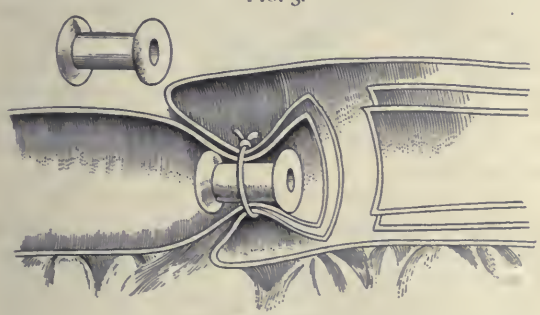
After exposing the tumor the following procedures are in order: reduction, artificial anus, entero-anastomosis, partial resection, typical (?) resection. Reduction is best accomplished by pressing through the intussuscipiens upon the apex of the mass in such a manner as to drive the intussusceptum through its receiving coat. Traction upon the extreme ends should not be practised, as it is liable to result in injury to the walls of the gut of such extent as to be followed either by immediate rupture or destruction of portions requiring a further and more protracted operation. Pressure from behind need never be severe enough to injure the integrity of the intestine in any way, as in all cases in which there are neither adhesions nor gangrene the reduction is extremely easy. In the irreducible variety, no matter what the condition of the gut, one of the more severe operations is indicated.

The establishment of an artificial anus requires no words from the writer, for all are thoroughly familiar with the steps of procedure and the indications warranting it. When the patient's condition will admit of further procedure than the formation of an artificial anus, partial resection or typical resection should be done. An entirely unnecessary operative procedure, and one productive of as much shock and requiring as much time as an operation of more radical results, is entero-anastomosis. Partial resection, *i.e.*, resection of the intussusceptum through the receiving coat or the sheath, is advocated by Barker, Grieg Smith and others, and a modification of it is suggested by Paul and described in the London *Lancet* 3, 30, 1895. The operation of Barker (Fig. 1.) consists in first placing a row of sutures at the entering end of the intussusception, so as to include the sheath or intussuscipiens and the intussusceptum, then making a longitudinal incision in the ensheathing portion, placing suitable ligatures about the mesentery of the ensheathed portion, cutting off this ensheathed portion, and removing it through the gut, or if long enough, through the anus. A few sutures are placed in the cut proximal ends, all hemorrhage is checked, then the longitudinal cut in the sheath is sutured and finally the abdominal wound is closed. This operation is indicated only when no preventive adhesions exist between the invaginated and ensheathing portions.

As a modification of this operation the writer would suggest that the row of sutures uniting the intussusceptum to the intussuscipiens be omitted, and that before cutting off the intussusceptum the healthy entering gut be brought through the longitudinal slit, first tying off the mesentery then cutting off the in-

tussusceptum and removing it and completing the operation after the manner of end-to-end anastomosis described by Maunsell. Paul's operation is a modification of that of Barker, and, we take it, was advocated with a view to shortening the duration of the operative interference, but has the objectionable feature of requiring the surgeon to add another instrument, a light metal tube with expanded ends, to his now overstocked store. It is also an operation that can be performed only in selected cases, *i.e.*, those in which the caliber of the gut is retained to a degree sufficiently large to admit such a tube or improved device. The operation is performed as follows (Fig. 2.): After a preliminary row of sutures connecting the intussusceptum and intussuscipiens, the gut is cut longitudinally as in the Barker operation; then the returning and entering layers are cut, and the tube is pushed into position. A stout ligature is then tied about the intussusceptum so as to include the tube; finally the intussusceptum is cut

FIG. 3.



Paul's operation.
Longitudinal section, showing the position of the metal tube.

off. The incision in the outer layer is then closed in the usual manner. The features commending the operations of Barker and Paul are rapidity and diminished danger of soiling the peritoneal cavity. An objection is that the operation is more than likely to be followed by a diminution of the caliber of the gut.

In chronic intussusception, advancing in nature, the treatment resolves itself into an end-to-end anastomosis (after reduction as far as possible has been performed). Typical resection with end-to-end anastomosis should only be undertaken in those cases in which the patient's condition will warrant prolonged interference. The choice then lies in the hands of the operator between the use of Murphy's button, the Maunsell operation, and direct end-to-end anastomosis. Owing to the fact that more than one intussusception can take place, it is advisable to thoroughly examine the entire intestinal tract before closing the abdomen. Owing to the great variance in the mortality-rate as given by three most excellent observers during the past three years, Rydygier, 1895, seventy-five per cent.; Wiggin, 1896, twenty-two per cent., and Gibson, 1897, fifty-three per cent. the writer intentionally avoids presenting statistics which might further bewilder the reader.

CASE I.—Reported before the Section on Surgery, New York Academy of Medicine; March, 1895. *Medical Record*, p. 475, 1895.

Male, eight and a half months old, seen on the fourth day of the disease. Enemata had been unsuccessfully employed. No tumor was palpable either through the abdominal wall or per rectum. Celiotomy was performed and an intussusception of the enteric variety found in the left hypochondriac region. The mass was partially reducible; the remaining irreducible portion, almost six inches in length, was gangrenous. This gangrenous portion was removed and an end-to-end anastomosis with the Murphy button done. Septic peritonitis existed at the time of the operation. Death occurred within twelve hours.

CASE II.—Reported in the *New York Medical Journal*, April 16, 1898. F., male, aged nine years, was seized at four o'clock Friday afternoon in August, 1897, with colicky pain in the abdomen, limited to the right side and of rather severe character. During the night he vomited the contents of the stomach and some bile, and passed a large quantity of blood and clots by the bowel. There was marked tenesmus and frequent attempts to have a movement of the bowels throughout the following day, but with no further result than the passing of mucus and blood. His temperature was said to have been normal, while the pulse was slightly increased. On Sunday his condition showed all the evidences of severe shock, and upon palpating the abdomen a rather elongated tumor could be mapped out in the right side. In the absence from the city of Dr. Carl Beck the case was referred to me by the family physician. I saw the patient at nine o'clock on Sunday night and found the following condition: Countenance anxious, temperature 101° F., pulse 128, abdomen distended and tympanitic, painful to the touch, and a sausage-shaped tumor extending from the right iliac fossa to the costal cartilage of the tenth rib. I had the patient transferred to St. Mark's Hospital, opened the abdomen at ten o'clock, about fifty-eight hours after the onset of the symptoms, and found an intussusception of the enteric variety, the apex of which was within six inches of the ileocecal junction.

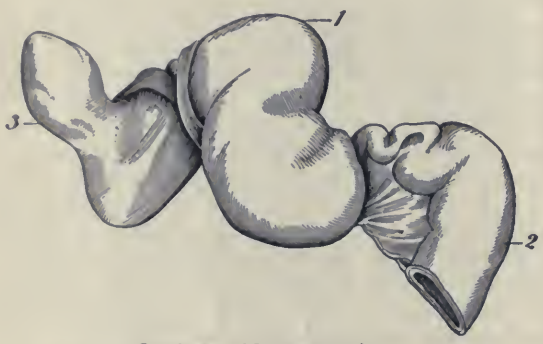
The mass was irreducible and gangrenous, and the mesentery was gangrenous to within an inch of its attachment to the lumbar column. In addition, the intestines were deeply engorged and a quantity of pus was found in the cavity. Resection of the mass and an end-to-end anastomosis with the Murphy button was performed, the abdomen thoroughly washed out with salt solution, and a gauze pack placed down to the anastomosis. The patient bore the operation very well and reacted nicely. During the two days following the operation he was given sixty cubic centimeters of Marmorek's serum with-

out any evidences of improvement. The condition of sepsis increased, and the patient expired at the end of the fourth day following the operation.

Upon examining the specimen a mass about two inches long was seen protruding at the distal extremity which was made out to be Meckel's diverticulum that had become inverted and evidently was the cause of the intussusception. Upon cutting the specimen open it was found to measure thirty-three inches in length. This extreme length was due to the tight manner in which the intussusceptum was packed in the ensheathing intussuscipiens (Fig. 4).

Case III.—Female, aged four months, seen September 18, 1897. Condition extremely bad. Rapid, feeble pulse; cyanosis; apathetic. Temperature 101° F.; abdomen distended, quite tympanitic. No tumor upon palpation, due to abdominal distention. Previous history vague; had been ill for a week or

Fig. 4.



Specimen of Intussusception.
1. Intussuscipiens.
2. Ileum.
3. Meckel's diverticulum (inverted) and intussusceptum.

more. The family stated that seventeen physicians had seen the patient during her illness. A diagnosis of intussusception had been made by the majority and operation advocated by some but was refused. Finally the family begged that an operation be performed. This was done within an hour of admission and an ileocecal intussusception found, readily reducible, but a general septic peritonitis existed and death followed within twelve hours.

Case IV.—Female, seventeen weeks old, well-nourished. Had had a previous day of diarrhea, and was seized with pain, restlessness, and bloody mucus dejections. Sent to the writer by Dr. Francis Huber, February 18, 1898. Enemata had been unsuccessfully tried. No mass or tumor palpable either by rectum or abdominal wall. Operation performed within the first eighteen hours; tumor found in right hypochondriac region and was of the ileocecal variety. Reduced readily. Patient stood the operation nicely but was taken ill with pneumonia; then another lobe became involved; finally recovery resulted. Suppuration occurred in the superficial layers of the wound. Discharged in five weeks.

Case V.—Female, exactly five months old. Sent to the writer by Dr. Joseph Huber, February 23, 1898. Patient had suffered from tetany for some weeks. Bottle-fed and poorly nourished. History of previous diarrhea and of intussusception of a few hours' duration. When seen by the writer there was pain, restlessness, blood-tinged mucus stools, but no tumor upon abdominal palpation. By digital examination a protruding mass high in the bowel could just be felt. Several enemas were given, and upon digital examination the protrusion could not be felt. She was placed in bed and slept quietly for eight hours. Upon awakening she became restless, and had a blood-tinged mucus stool. Operation was performed. The tumor was found in the left hypochondriac region, extending down to the lumbar region. It was of the ileocecal variety. The tumor was fixed in this region and upon searching for the cause of its irreducibility it was found that a hernia of the small intestine had taken place through the foramen of Winslow. Several coils being reduced before the fixation of the intussusception could be relieved, the tumor was readily displaced and reduced by pressure through the intussuscipiens upon the apex of the intussusceptum. This child also recovered, but during three weeks following the operation there was absolutely no evidence of union in the abdominal wound. The intestines protruded upon several occasions. Secondary sutures were placed twice, and upon two occasions blue pus was present upon the dressings. During the third week repair began. The child was discharged between the sixth and seventh weeks.

Case VI.—Male, thirty-eight years of age, admitted to Gouveneur Hospital, March 17, 1898. When seen by the writer he stated that he had had colicky pain that morning. Examination: Slight evidence of shock; pain in abdomen; local tenderness in left hypogastric and lumbar regions; vomiting; had a rather large bloody mucus stool. Palpation: Very sensitive upon left side; a tumor elongated in shape could be felt in the left lumbar region. Three pints of saline solution were given after a three-pint simple enema; both were negative in results. Bloody stools continued at intervals. Operation not indicated by patient's general condition. March 18th. Three-pint injection of salt water followed by bloody mucus only. Pain eased some. March 19th. Enema of three pints of soap and water. Pulse 100.2° F. Tumor disappeared. Calomel, 10 grains, and eleterin, $\frac{1}{10}$ of a grain, were given. March 20th. Large movement. March 21st. Patient discharged.

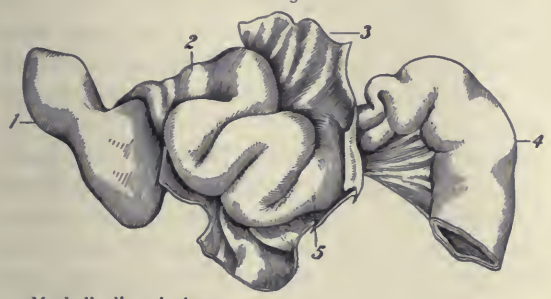
Case VII.—This case occurred in the practice of Dr. M. Dantes during March, 1898, who cited the history to me with a view to treatment. Female, aged three and one-half months, ill two days when seen by Dr. Dantes. She had had diarrhea and vomited a few times during these days. When seen there were bloody-mucus stools, pain, and restlessness. No tumor found by abdominal palpation, but evidences by rectal examination. Enema proved of no avail. Operative interference refused; child died on the twelfth day of the disease with all the evidences of a septic peritonitis. During the latter

days of her life foul-smelling discharges were evacuated but no sloughs.

VOLVULUS.

Volvulus is a disease of advanced life and consists usually of an axial rotation of a portion of the bowel with occlusion sufficient to cause either partial or complete obstruction. The twisting may be and frequently is followed by gangrene of the engaged loops or portion of the bowel. The causes are chiefly anatomical as predisposing with exaggerated peristalsis as an excitor. The anatomical cause is either a preternaturally long mesentery or a normal mesentery elongated, possibly by a weight in the bowel or

FIG. 5.



1. Meckel's diverticulum.
2. Intussusceptum.
3. Intussuscipiens split open.
4. Ileum.

hernia. About fifty per cent. of all cases have been found involving the sigmoid, and here the cause is eminently the long mesosigmoid, usually found giving great mobility to this portion of the intestines. The next frequent site of volvulus is the lower ileum or cecal region. Men are said to suffer from volvulus four times more frequently than women.

The symptoms of an attack of volvulus are sudden onset of pain more or less general in the abdomen and finally localized; occasionally a tumor corresponding in outline to the intestine, this tumor varying on percussion from a dull to a highly tympanitic note; pulse accelerated; obstruction following after the bowel is emptied below the point of twisting. These symptoms may suddenly disappear as a result of self cure by untwisting or as a result of an injection. In case this does not occur a progressive peritonitis, first localized then generalized, with concurrent gangrene, takes place.

The treatment resolves itself into the use of enemas and operative interference. If an enema has been used successfully there is usually an evidence of gas or feces coming from the anus or retention of the fluid for a length of time, while the abdominal symptoms are immediately ameliorated.

It has recently been stated that numbers of cases of volvulus of a minor degree untwist either during palpation of the abdominal wall or as a result of peristalsis due to some cathartic agency. Should injections *plus* massage fail, then celiotomy should be performed with a view to releasing the twist, and carrying out any of the following operative procedures found necessary. These are, in cases not requiring excision of gangrenous gut, the stitching of the mesentery so as to shorten it or to prevent the twisting recurring, or the removal by excision of a portion of the long and lax sigmoid with its mesosigmoid, and then performing end-to-end anastomosis. Where gangrene has taken place the course of procedure is exactly as in the case of gangrene in strangulated hernia or intussusception. During three years of an emergency service only three cases have occurred in Gouveneur Hospital. One of these came to the writer in 1896. The patient, a female about thirty-eight years of age, was moribund at the time seen, with a history of a week's illness, onset with sharp abdominal pain, complete obstruction after a small movement; then localized pain in the left lower region of the abdomen. Distention was marked when seen by the writer; pulse 140; temperature subnormal. The patient was cyanotic. No operation; death in a few hours. Autopsy: A volvulus was found involving the sigmoid and rectum with gangrene of fourteen inches of gut.

The second case occurred in the service of the late Dr. O. J. Ward in August, 1897. A male, aged 37 years, with a history of epigastric pain of slight character for some time. Five days prior to admission had an attack of diarrhea followed by complete obstruction. Upon admission severe pain was localized in the epigastrium, general abdominal tenderness, dulness over lower abdomen; tympanites over the right hypochondrium; pulse 120; respiration rapid; first evidence of vomiting since illness began. Abdominal section was performed. General fibrinous peritonitis with a volvulus of a part (?) of the small intestine was found. This was readily reduced after breaking up some adhesions. Patient died in thirty hours.

The third case occurred in the early summer of this year in the service of Dr. John Rogers and was seen by the author. The patient was an elderly Polish Jew with a large irreducible hernia. When seen by the writer he was suffering from symptoms of a strangulated hernia, but upon operation by Dr. Rogers, a volvulus of the ileum was found with other contents of the sac. The patient died within forty-eight hours from shock (?).

Although this third case was not a typical case of volvulus, nevertheless, the twisting evidently was the cause of the irreducibility, the patient having suffered from a reducible hernia for years.

THE PRESENT STATUS OF ANTISEPTICS USED IN SURGERY OF THE EYE.

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THE constantly exposed position of the conjunctival sac, together with a favorable temperature, sufficient moisture, and proteid matter enough to encourage bacterial growth, make this organ the almost constant habitat of micro-organisms. Here they find many safe retreats in glandular openings and other recesses, and under certain conditions give rise to purulent processes. Under ordinary circumstances Nature has, however, happily provided counteracting influences which prevent bacterial development to any dangerous degree. The abundant blood supply of the eyelids and extra-orbital structures assures a local vitality great enough to make at least improbable any serious invasion of pathogenic organisms into these tissues. On the other hand, the wonderful and perfect drainage of a healthy conjunctival sac, together with its flushing apparatus, the lacrimal gland, are ample to dispose of unusual numbers of bacteria in time of health. It is, however, not always so when through some cause or other these natural safeguards become in a measure debilitated.

In a large percentage of those cases in which surgical interference is indicated, a concomitant defect in the power of the eye to protect itself is also present, hence, infections due to lack of special precautions have often taken place. It is evident to all observers that, since the general recognition of the principle of antiseptic precautions in operations on the eye, failure of good result through infection has been rare indeed. It is but recently, however, that it has been observed that germicidal agents, which are used with so much confidence, do not deserve the foremost commendation for reliability in procuring brilliant results in eye surgery, and that, in fact, they often carry within themselves elements of the greatest danger to an eye that has been operated upon, especially if the deeper and more delicately nourished structures are involved. Chief among these dangers may be mentioned the incidental irritation these agents produce if used in the strength which experience teaches is necessary to accomplish destruction of pathogenic germs. To destroy the enemy of good healing in its hidden recesses by chemical agencies has been proved to be practically impossible without serious damage to the tissues and consequent lowering of their vitality. Within the last few years many tests have been made to determine the relative value of chemical antiseptics used in the eye. In all these tests it has been clearly shown that none of the antiseptics, though used in strong solution, would of themselves render the conjunctival sac aseptic, and that the incidental mechanical cleansing is a factor far more efficient than the antiseptic itself. In fact, irrigation and cleansing with normal saline solution has proved just as efficient to reduce the number of micro-organisms and render the eye surgically clean as when antiseptics of a chemical nature were used. The point of the greatest importance has been found to be the repeated cleansing by swabbing and irrigation combined, the quality of the solution, whether a chemical antiseptic or distilled water, being of no consequence. Once thoroughly sterilized by a process of frequent swabbing and irrigation, mild antiseptics, such as boracic-acid solution, etc., were sufficient to keep the surface in a surgically clean condition, while the stronger antiseptics would frequently set up irritation, itself detrimental to the best healing.

The nutrition of the cornea and of all the media of the eye is so delicately balanced that the slightest lowering of vitality will cause serious disturbances and thus invite infection, which these tissues otherwise might have resisted. The stronger antiseptics, consequently, are used less and less, and Nature's method of mechanical cleansing with the use of normal saline solution, or some other non-irritating solution, finds acceptance. In operations on the lids and appendages, where nutrition is always good, the character of solution is not so material, and no harm could result from using even the stronger antiseptics. Here, however, though harmless, the stronger antiseptics are not necessary, as the excellent blood supply in these structures is fully sufficient to guard against infection provided ordinary cleanliness is practised. It has been the practice of a number of prominent eye surgeons to wash out the anterior chamber after cataract extraction with a solution of boracic acid or some other mildly antiseptic solution. But even these have been found in many cases to favor inflammatory processes and have been largely abandoned for this special use. My experience has been that the quickest and most favorable healing with the least amount of irritation has been in those cases in which the stronger antiseptics, such as 1–2000 or 1–5000 sublimate, were avoided, and in which normal saline or boracic-acid solutions only were used to insure surgical cleanliness by repeated irrigation and swabbing after the more serious diseases of the lids and lacrimal apparatus had been cured by appropriate treatment. These cleansing processes have been generally begun a few days previous to operating on intra-ocular structures. On the other hand, I have

on different occasions found that a solution of 1–5000 sublimate not only irritated some eyes considerably but actually seemed to endanger good healing through such irritation. In this experience I am corroborated by many leading eye surgeons.

A source of great danger in operations on the eye is the improper or insufficient preparation of the instruments and general surroundings. To act strictly in conformity with the best teachings, based upon bacteriologic facts, one must have due regard for the influence of air currents and for commotion in the operating-room in stirring up dust. No amount of attention and care can always prevent infection when these precautions are not taken during an operation. In the preparation of the operator, as well as the instruments, the ordinary rules of aseptic surgery should be strictly adhered to. Shortly before the operation instruments can with great advantage be dipped into absolute alcohol and then thoroughly wiped under firm pressure with clean cotton wool, when after being boiled they are placed in a concentrated boracic-acid solution for immediate use.

The present tendency of the use of antiseptics in surgery of the eye is to discard the stronger and depend more upon obtaining asepsis by means of the weakest solutions together with mechanical cleansing. Experience and careful observation have proved this to be the safest and surest means of obtaining ideal results.

CLINICAL MEMORANDUM.

THE DIFFICULTIES OF DIAGNOSIS IN RUPTURE OF THE SPLEEN, AS ILLUSTRATED BY A CASE.[1]

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ON February 3, 1894, I was summoned to Staten Island to see a boy who had been injured while coasting on a hand-sled, having been thrown violently against a tree. The tree was a sapling and in striking it he was doubled up around it, the point of impact being the left lumbar region. The boy was picked up in a state of profound shock and carried into the house. He was at once placed in bed and hot bottles applied. The local physician who was promptly called gave the boy stimulants and a hypodermic injection of morphin to control the shock and relieve the pain in the left lumbar region of which the patient complained. He rallied at the end of four or five hours. At this time he was unable to pass his urine and a catheter was used to empty the bladder. About ten ounces of urine was obtained and floating in it were a great number of minute blood-clots which upon settling completely covered the bottom of the ordinary chamber vessel.

The accident happened at about five o'clock in the afternoon and I saw the patient at 2.30 P. M. the following day. At that time I learned the above history and saw the three separate specimens of urine which had been secured and saved for my inspection. Minute blood-clots were apparently still in the amount described above. I recognized the boy at once, a tall, slender, swarthy complexioned young fellow, a Mexican, the son of a prominent citizen of Vera Cruz. He had presented himself at my office with letters of introduction upon his arrival at New York with his brother six months previously, for the purpose of attending a private school on Staten Island.

I found him lying on his back, comfortable in every way except for a slight headache. His pupils were contracted; skin normal; he was under the influence of small doses of morphin; temperature 101.5° F. There was no paralysis, no points of tenderness along the spine, no irritability of the stomach; pressure in the left lumbar region was painful. Dr. Walzer, who was in attendance and who continued throughout to share with me the responsibility of the case, had already made a diagnosis of probable trauma of the left kidney and with this I cordially agreed. The extent of the injury was apparently not sufficient to demand surgical interference. The expectant plan of treatment was adopted, complete rest, sufficient morphin to control pain, light diet and careful general nursing. He continued to pass minute blood-clots in the urine in steadily decreasing amounts for four days, when they disappeared, and complained of pain in the region of the left kidney for ten days, his temperature ranging daily between 101° and 102° F. All his symptoms gradually disappeared and at the end of three weeks he was allowed to sit up and three weeks later was permitted to go out walking for exercise. While walking with his brother he foolishly got onto the tailboard of a passing wagon, but at the imperative demand of the driver promptly jumped off. He was immediately taken with terrific pain in the left loin and epigastrium, attended with violent cramps and vomiting. He walked home with assistance but immediately went into a state of collapse, necessitating treatment similar to that employed at the time of the original accident. I had been seeing him at regular intervals and was now hastily summoned again. The symptoms of acute gastritis yielded promptly to morphin treatment but the temperature went steadily up during the following forty-eight hours till it reached 104° F., accompanied by all the signs and symptoms of a general peritonitis focused about the vermiform appendix. Upon consultation an exploratory laparotomy was decided upon with the idea of removing the appendix if conditions demanded it, and at the same time taking advantage of the opportunity thereby afforded of passing the hand into the abdominal cavity and exploring all the abdominal organs and their immediate surroundings. The left kidney still protruded itself in thought as the original seat of the difficulty, with the possibility of a perinephritic abscess. Accordingly an abdominal incision was made in the median line. A recent plastic exudation was present throughout the entire ex-

[1] Read at a stated meeting of the Northwestern Medical and Surgical Society of New York, December 21, 1898.

tent of the peritoneum, the appendix was elongated, swollen and congested and adherent to the omentum. It was removed. I then passed my hand, and arm as far as the elbow, through the incision and examined all the organs of the abdomen; the liver, the spleen, the kidneys, and the pancreas were all in turn grasped and carefully palpated. The size, the position, and the consistency of each appeared normal and no sign of an abscess was anywhere present.

The patient rallied favorably from this operative procedure, the peritonitis entirely disappeared and he convalesced for a week with all the evidences of having been relieved of the *fons et origo* of his trouble. At the end of that time his temperature began to rise daily, the stomach became irritable and, after repeated daily examinations, a point of fluctuation with slight bulging was discovered at the middle of the anterior border of the right lumbar muscle. This was freely incised and about four ounces of pus was evacuated. The cavity was explored with finger and probe but no lead in any direction could be found. The patient recovered from this procedure and improved steadily for nine days, when he was taken with a severe chill, rise of temperature to 104° F., and a drenching sweat.

One of the most prominent surgeons in New York was now called in consultation, and in his presence the patient was again etherized and the pus-cavity explored. By enlarging the wound and thus securing more room a lead was found and a long uterine sound could be made to pass its entire length following the concavity of the abdominal wall on its interior surface to a point directly over the pit of the stomach. At this point an incision was made on the tip of the sound and the latter pushed through. Withdrawing the sound and entering the pus-tract through the new incision the sound followed the curve of the diaphragm on its under surface obliquely to the left its full length. Through the new incision the pus-tract was flushed out with sterilized water but not much pus was found. It was not thought wise to do anything more. A drainage-tube was inserted, through which the cavity was washed daily. This evidently afforded freer discharge and gave relief. The temperature was reduced to normal and remained near that point for a week with satisfactory improvement in his general condition. Again the chills recurred with marked rise of temperature and exhausting sweats. The same consultant was asked to see the patient again. After carefully summoning all the facts in the case and sifting the evidence, the conclusion was reached that the left kidney or its immediate surroundings must be the source of the pus and an exploratory incision at the seat of that organ was decided upon. In deference to the wishes of friends the consultant was asked to do the operation and consented. The kidney was found normal in size, appearance, and consistency, and no evidence of the presence of pus in the neighborhood could be discovered. As no other surgical procedure suggested itself which offered as much prospect of relief as the one just completed, the kidney was restored to its normal position and the wound closed. No appreciable depression followed this operation; on the contrary the patient seemed possessed of renewed strength and all the symptoms improved. At the end of another week, however, the discharge from the sinus gradually diminished, the stomach became irritable and the exhausting chills, temperature and sweats again renewed their deadly work. An area of dulness developed at the base of the right lung and the liver seemed slightly depressed. The patient was now well-nigh exhausted but still full of courage and anxious to submit to whatever offered any relief. At this junction Dr. John A. Wyeth and Dr. Frederick Lange were called in consultation together.

They discovered the same area of dulness and agreed upon the existence of a subphrenic abscess. They were also agreed that some injury to the liver was probably the original and essential cause of all the trouble. Dr. Wyeth favored immediate evacuation of the pus. Dr. Lange thought it would be useless; he was willing, however, to favor it to the extent of being present. I therefore asked Dr. Wyeth to operate and Dr. Lange kindly assisted.

The best route by which to reach the pus seemed to be directly through the pleural cavity. Accordingly, three inches of rib was resected, and while pressure was made to prevent the ingress of air the pleural cavity was entered. The edges of the incision in the thoracic pleura were then stitched in an ellipse to the diaphragmatic pleura and within this ellipse a trocar was passed through the diaphragm into the pus-cavity. About half a pint of pus escaped. Drainage-tubes were inserted, dressings and bandages applied and the patient put to bed. His condition improved a little after this procedure but it was apparent that his end was near. He had a severe fit of coughing the fourth night after the operation, during which his heart gave out and he expired. Necropsy revealed a normal condition of both kidneys and the liver but disclosed a ruptured and necrosed spleen. The anterior aspect of the spleen, however, was intact and surrounded by coils of intestines adherent to gave no suggestion to the eye or touch that it was injured. On breaking through the adhesions, however, there was disclosed a large pus-cavity and necrosis of the spleen to such an extent as to leave intact only the blood-vessels and the anterior shell of the organ.

The case is instructive in emphasizing the importance in all cases of internal injury, and especially when the diagnosis is uncertain, of prolonged rest, even to the extent of months. The boy in question had evidently recovered completely from the original injury, *i.e.*, the wound of the kidney and the spleen had both undoubtedly healed by primary intention. The violence done to the delicate tissue involved in the healing process, however, when the patient jumped from the cart, probably tore open the primary lacerations of the spleen, and suppuration occurred.

The behavior of the pus in that location is interesting. First there was awakened a general peritonitis, which was self-limited in spite of the continued presence of the pus. Then the pus took such a remarkable course in following the curve of the diaphragm from behind obliquely forward and to the right across the anterior face of the stomach

and accumulated at the border of the right lumbar muscle. As the tissues became weakened by continuation of the process and less resistant, the pus found a new channel and accumulated above the liver. In the light of the necropsy the only mistake made, if mistake it could be called, was in not pushing the exploration a little further at the time the left kidney was exposed. It is possible that direct communication with the necrosing tissue might have been established and the suppurating process stopped.

The operation for reaching the subphrenic abscess was one of the nicest bits of surgical work it has ever been my good fortune to participate in. The pity of it is that it could not have been productive of fruitful results.

MEDICAL PROGRESS.

A New Bread for Diabetics.—DAVIS (*Jour. Am. Med. Ass'n.*, November 5, 1898) recommends for the use of diabetic patients a flour made from one of the many edible pine nuts. It is fine, slightly yellow, and bland in taste. It contains no starch, and only seven per cent. of cane sugar, almost all of which is lost in the baking if the bread is raised with yeast. Bread and cake made from it is found to be an agreeable substitute for wheat bread. It must be used in moderation, however, or it will cause indigestion with loss of appetite and disinclination to eat this bread. The flour from which it is prepared is known as Chicago Sanitary Flour. It contains 55.65 per cent. of albumenoids, 6.42 per cent. of mineral matter, and 19.82 per cent. of oil. Sweet almonds contain 53 per cent. of oil, and cocoanut 70 per cent. This pine flour is, therefore, much less likely to cause indigestion than either of these nuts. These oils are not in themselves objectionable. On the contrary, they help to retard nitrogenous waste, and are therefore of service, if they do not derange the stomach. The best results are obtained if the patients are gradually accustomed to the change from wheat to diabetic flour.

Danger of Punching Out Bits of Malignant Tumors.—RICHARDSON (*Boston Med. and Surg. Jour.*, October 27, 1898) cites two cases from his personal experience to show the disadvantages of resting the diagnosis of carcinoma on the bits of tissue secured by a punch. In one of these the punch failed to bring out malignant tissue, and the patient went on in a false security until the disease had grown to such an extent as to render successful operation impossible. The bit of the breast of the other patient was proved by the punch to be not carcinomatous; but the clinical appearances were so contrary to this conclusion, that another punch-thrust was requested but refused by the patient. Two weeks later, the breast and axillary contents were removed, and it was noticed that there was infection of the pectoralis major, the pectoralis minor, and the axilla, in a straight line. This was, without doubt, a direct contamination of previously healthy parts by the exploring punch, for the nodules were of about the same size and age, and in the muscles, at least, they were the only ones found. Richardson says that the time has come when all suspicious breast-tumors should be explored so thoroughly that inspection and touch are possible. Even then a nodule may be overlooked. Exploration with a needle or a punch not only exposes the loose spaces about the tumor to infection, but it gives, by failing to extract a specimen from the affected spot, a false and highly dangerous sense of security.

The Prevention of Conception.—TREUB (*Centralbl. f. Gynæk.*, October 15, 1898) says that the principle, "No medical treatment without medical indication," does not meet all cases. Cosmetic operations are certainly justifiable. Not less so is the proper application of the pessarium occlusivum. This means of preventing conception is absolutely without danger. The danger for nervous persons lies rather in interrupted coitus and in the use of condoms. It is the duty of the physician to warn phthisical, epileptic, and neurotic persons that they ought not to have children. If a physician refuses, on account of Biblical or Talmudic law, to furnish to such persons the necessary knowledge to prevent conception, there is an end of medical scientific treatment. The significance of normal cohabitation is in general far too little considered. In men as well as animals the longing for coitus is not always associated with the desire for offspring, so that it is not right to speak of sterile intercourse as something contrary to Nature. Complete sexual abstinence is capable of working injury, if the attempts to overcome the desire for it put the physical and psychical powers of the individual to too great a strain. Voluntary sterility is allowable when the increase in the number of children would make it impossible that all should be properly brought up, or when the wife is not in physical condition to bear children. Preventive measures are abused by the rich, but they are too little used by the poor.

The Difficulties of Defecation in Infants.—MARTIN (*Jour. Amer. Med. Ass'n*, November 5th) says that the imperfect development of the lower part of the intestine of infants causes them to strain at stool. The infant's rectum and sigmoid flexure are deficient in muscular elements, and hence the power of peristalsis cannot be present to the degree necessary for adult defecation. Furthermore, the relation of the peritoneum to the rectum of the infant also contributes to the difficulties of defecation, as does the relatively great length of the descending colon and sigmoid flexure. The third feature which tends to obstruct defecation is the rectal valve. The presence of such a valve has been denied, but Martin found it in each of more than three hundred subjects examined by him. In most cases there were three valves, although in some cases there were four and in others only two. The valves are particularly well developed at birth, when they span one-half of the diameter of the gut. The bony pelvic outlet in the newborn infant measures, in its transverse diameter, 1.27 cm. (slightly more than half an inch). The pubococcygeal measurement is even less, while the average distensibility

of the sigmoid flexure is four or five times these measurements. All these facts explain how difficult it is for an infant to expel any other than fluid or semifluid feces. The practical lesson is that by means of diet, hygroscopic suppositories, and fluid injections the fecal matter should be kept from passing in a solid state.

Traumatism and Appendicitis.—SMALL (*Med. Record*, September 10, 1898) says that traumatism plays an important part in the development of appendicitis. The original idea that foreign bodies, such as grape-seeds or fecal concretions, set up attacks of appendicitis, has been generally given up. Later, the theory was advanced, and is still widely held, that catarrhal conditions in the cecum are the real cause of the inflammation in the appendix, and the recent epidemics of influenza with accompanying enteritis, are made to explain the great increase in late years in appendical trouble. Still, this does not explain why so large a percentage of cases is found in young adult males. The reason for this, according to Small, is their more frequent exposure to accidental injuries and strains, and the strong contractions of the abdominal muscles occurring in their work. The increase of abdominal pressure thus caused forces a part of the contents of the cecum into the appendix. In support of this theory the writer cites thirteen cases occurring either in his own practice or in that of his friends in which the traumatic history seemed clear. He thus sums up our present knowledge upon the subject:

1. That general prevalence of catarrhal conditions of the bowels, perhaps as an accompaniment or result of the grippe, is responsible for a large part of the general increase in prevalence of appendicitis.

2. That accidental injuries, strains, and work demanding strong contraction of the abdominal muscles may be held accountable for the greater prevalence of the disease in males.

3. That such injuries and strains act by forcing material, loaded with the bacteria which produce appendicitis, from the cecum into the vermiform appendix.

4. That in consequence of the irritation of such material, or from some other cause, these germs here find a favorable soil for their multiplication and development.

5. That in common with other germ diseases a time of incubation must elapse (for the multiplication of these germs) before symptoms sufficiently marked to prove characteristic of appendicitis can appear.

6. That the disease is of growing medico-legal importance, as many cases are of traumatic origin, and may, therefore, give rise to proper suits for damage or valid claims against accident-insurance companies.

Anesthesia of Anemia.—KOFMANN (*Centralbl. für Chir.*, October 8, 1898) says that he has found that the finger, or hand, or any part of the body that is absolutely free from blood becomes anesthetic. Therefore, instead of injecting cocain or using chloroform for operations upon the extremities, he simply applies a tight elastic bandage so as to render the part absolutely free from blood. After the anemia has continued for fifteen or twenty minutes, or, in some instances, for half an hour, he can operate freely without the patient experiencing the least sensation. He has proved the accuracy of this method in a number of instances, and is much pleased with it, inasmuch as he avoids the unpleasant after effects of cocain, and finds it necessary to use this remedy only in operations upon the trunk or head. In operations upon these parts he uses Schleich's method of cocain anesthesia. Chloroform he has given up almost altogether. It finds its place merely in particular instances.

THERAPEUTIC NOTES.

Menthol in the Treatment of Migraine. — FRIESER (*Münchener med. Wochen.*, August 30, 1898) looks upon menthol as a most valuable remedy in the treatment of migraine. When an attack comes on he either washes out the stomach with lukewarm water containing a little menthol, or if this is not practicable he directs the patient to drink a quantity of hot water and administers valerinate of menthol. The following is a favorite prescription:

℞ Menthol valerian. . . . . 3 j
Aq. dest. . . . . 3 v
Syr. capillor. vener. . . . 3 vj.
M. Sig. Fifteen drops every two hours.

It is important to improve the diet of anemic individuals by giving them iron and artificial foods. These he usually prescribes in the form of ferratin and somatose. The diet of constipated patients must be especially looked into. Daily irrigation of the bowels with lukewarm water containing a little glycerin, lukewarm sitz baths, abdominal massage, and electricity will be found of service in combating constipation. Fluid extract of cascara is a valuable internal remedy. The writer has little faith in the treatment of headache by antipyrin, antifebrin, phenacetin, salophen, salol, or lactophenin. If the pupils are greatly contracted a powder made in accordance with the following prescription may be given every two hours:

℞ Caffein. citrat. } aa . . . gr. viiss
Menthol }
Quiniæ sulph. . . . . gr. xv.
Div. in chart. No. X. Sig. One powder every two hours.

Patients with widely dilated pupils may inhale ether from a handkerchief, two or three drops at a time. Valerianate of menthol should also be given in the interval between the attacks of migraine. A permanent cure can be effected in many patients.

Menthol-Iodol for Use in the Nose and Throat.—To overcome the unpleasant odor of iodol, which has been found so valuable in the treatment of catarrhal and ulcerative processes of the nose and throat, it is recommended to incorporate with it one per cent. of menthol which serves also to produce a refreshing sensation in the parts treated.

For Vomiting in Pertussis.—

℞ Menthol . . . . . gr. i
Sacchari albi . . . . . gr. xii.
M. Div. in chart. No. VI. Sig. One powder every two hours.—*Baginsky.*

THE MEDICAL NEWS.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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Address the Editor: J. RIDDLE GOFFE, M.D.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK.

Subscription Price, including postage in U. S. and Canada.

PER ANNUM IN ADVANCE $4.00
SINGLE COPIES 10
WITH THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, PER ANNUM 7.50

Subscriptions may begin at any date. The safest mode of remittance is by bank check or postal money order, drawn to the order of the undersigned. When neither is accessible, remittances may be made, at the risk of the publishers, by forwarding in *registered* letters.

LEA BROTHERS & CO.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK,
AND NOS. 706, 708 & 710 SANSOM ST., PHILADELPHIA.

SATURDAY, DECEMBER 24, 1898.

LAWYERS' FEES—DOCTORS' FEES

NEW YORK CITY or at least the non-legal portion of its inhabitants, for perhaps the legal fraternity considered it too mere a bagatelle to deserve even passing notice, have been not a little interested in the fact that has come to public attention during the past week that a lawyer may receive a $5000 fee and forget all about it. No one we are sure has the slightest doubt that the distinguished lawyer who denied absolutely having received the aforesaid fee, though it was afterward clearly proven that he had received it, was eminently sincere in his denial. It would simply seem that $5000 fees are such common occurrences in a great lawyer's everyday life that he cannot reasonably be expected to recall their receipt with absolute assurance if any considerable time has elapsed since the event, or if he happens to have been at the moment of its presentation so busy with other or more important matters as not to have made an act of reflex consciousness and so impressed the trifle on his memory.

We do not know of many members of the medical profession who would be liable to be bothered by such an annoying slip of the memory. It may be, however, that our acquaintance with the upper-tendom of the medical fraternity is not extensive enough to warrant our making an absolute statement in the matter. For after all the two professions, law and medicine, are filled by men who come from the same classes of society, whose educations take about the same length of time and cost about the same amount of money. There is no special vocation of genius to the one nor relegation of intellectual featherweights to the other. The labor required to fulfil the duties demanded of the lawyer is at least no more exacting than that demanded of the physician. We do not think that it has ever been hinted that the work done by the medical profession was of less importance to humanity than that done by their brothers of the law, and they are quite as frequently successful in their efforts in behalf of those who consult them. It would be manifestly unfair then to think that the rewards gained by the lawyers were so much greater than those accorded to the doctors. All of which goes to prove, we think, that despite the fact that we may not know them there are a number of medical men in Manhattan, who may in moments of inattention pocket $5000 fees without reflecting thereon, and so may-hap demand them again. *O, fortunati minium!*

But why is it then that when the question of doctors' fees gets into court lawyers always insist on their excessiveness? One might think that the generous fees they collect themselves would make them realize that the value of the work of a liberal profession cannot be estimated by any cut and dried rules of trade, or commercial deductions as to the value of time. The value of a service in law depends upon the worth of it to the party for whom it is performed, and the following out of exactly the same steps of legal procedure has a very variable fee for its reward according to the circumstances of the client for whom it is done. Why the same rule should not hold for the services of a physician does not seem very clear. But the attempt to put such a principle into action by the doctor brings down upon him in case of legal complications the malediction of judge and lawyer, and almost inevitably leads to the extremely unpleasant predicament of having to accept a fee made more or less arbitrarily smaller by the court. We humbly submit that all this seems scarcely in accordance with the American spirit of fairness or with the high principles of equity our

legal brethern laud so justly. Let us hope that this little public reminder that "there are others" will give them a fellow feeling that will make them wondrous kind to the little seeming exaggerations that their brothers of the healing art may commit in the making out of bills.

HYSTERICAL SCOTOMATA.

UNDER the caption "Forgot Her Own Name" the New York daily papers at the beginning of the week were discussing the case of a woman who called up police headquarters by telephone to ask if search was being made for a missing person of her description who had completely forgotten her own name. The police took her to a hospital and her friends were found. The case proved to be one of hysteria and the symptom that attracted so much attention, the amnesia of her own name, while not of frequent occurrence, is not unique in medical literature. It is analogous to other functional disturbances that cause scotomata, dark or blank spots, in sentient or psychical processes. Genuine scotomata of vision occur frequently; scotomata, so to speak, of taste or smell, in which the faculty to perceive certain savors or odors is lost, have been noted and the irregular anesthesia that constitutes one of the stigmata of hysteria is nothing more than these blank spots in tactile perception. The psychical scotomata are perhaps rarer and they occur especially in the voluntary sphere, though it is unfortunately the custom to ascribe manifestations they produce in this field to a blameable lack of will power. Some of the very peculiar judgments of the hysterical are undoubtedly due to hiatuses in the logical reasoning power that can be best explained on the ground that certain parts of the nervous organism necessary for perfect ratiocination are not at the moment capable of functioning—cerebration scotomata.

"GRIP" OR "COLD."

MANY doctors in New York City have been seeing during the past few weeks a series of cases that have easiest ranged themselves under the diagnosis grip. The symptoms have been irregular and atypical and have differed in different cases. Often there has been no coryza or any other involvement of mucous membrane until after two or three days of illness. Sometimes there has been very little fever, though complaints of pains in the bones and other symptoms of general malaise have been frequent. Sometimes fever has been a marked symptom though there has not been much general disturbance; at times the pulse has represented the most disturbed function in the case.

Since the epidemic of influenza ten years ago there has been a tendency to attribute all irregular or atypical forms of what used to be called an ordinary cold to grip. There is danger that a word like this may, by seemingly satisfying the natural inclination to look for the cause of a thing, discourage investigation of real causes. It would not be the first time by any means that a word has been made to do duty as a mantle, voluminous as charity in the moral order, to cover a multitudinous pile of ignorance. But it seems scarcely worthy of our vaunted end-of-the-century science to bridge over a hiatus in our knowledge by a structure that is words, words and very little if anything more.

The cases sketched just above are by no means typically grippal; in fact, unless Pfeiffer's influenza bacillus could be demonstrated in them we see no good reason at all why they should be classified as grip. We would much prefer to hear them classed simply as "colds." Not that "colds" is not so indefinite and general a term as to be almost meaningless and to be eminently unsatisfactory as far as the science of etiology goes, but its use is a confession that we do not know the cause and further investigation is encouraged. The fact that these cases have all occurred within a few days does not take them out of the catalogue of colds, which in the winter time are prone under certain meteorological conditions to occur in numbers. The further fact that the cases have at times occurred in groups so as to appear to have a certain epidemicity or even contagiousness does not argue against their being "colds." For we suppose if a cold means anything it means a microbic invasion due to certain weather influences, to increase in number and virulence of certain bacteria and to the lowered resistive vitality of the patient. Let us have the attempt to differentiate some of these colds from one another, first clinically by noting the grouping of certain symptoms, and second etiologically by finding the bacteria or some of them at work under the varying circumstances.

THE EVOLUTION OF FOOTBALL.

IT is interesting to note now that the football season is practically over, and the New York Harvard Alumni have properly honored the victors of the year, that there has been an almost total absence of that somewhat blatant disapproval of the game, so usual a few years ago, by a press that published accounts of brutal prize-fights without a comment. The fact of the matter is, the evolution of football has made for gentler methods in its practice. As it has been played this year it is a striking example of what true American manliness has been able to make out of a sport that seemed essentially rough. Much remains yet to be done to mollify certain objectionable features of this character but the healthful development of the game may confidently be left to "the powers that be" under whose guardianship the difficulties to be met are thoroughly appreciated. Their gradual removal is persistently and successfully being accomplished.

The football field has proven the nursery from which, as recent history shows, many a self-forgetting hero has come. We are glad to chronicle the gradual disappearance of certain objectionable features of the game and to encourage its further evolution along lines that, while leaving it an arena for gentlemanly sport of the highest order in which the best qualities of rising young manhood are brought out (a thorough eraser of the effeminate ways that modern luxurious city life threatens to bring into vogue), will make it still worthier of the attention of the cultured classes whom it now so powerfully attracts.

SEWAGE AND OYSTERS.

WE print this week a résumé of the practical conclusions of the Committee of the British Association for the Advancement of Science, appointed especially to report on the effect of sewage on oysters. Now that the holiday season is here, when so many of the popular bivalves are consumed, it seems particularly timely. The report points out very clearly that oysters are extremely liable to be contaminated by sewage material present in the water in which they live. As during the last few years the neighborhoods of our great oyster bays have become more and more thickly populated, with a consequent discharge of sewage into the bays, it is clear that the danger from oysters is becoming every year greater. The near future will see the danger increase, not diminish, unless measures are soon taken to protect the oyster beds and properly dispose of sewage.

Oysters and milk constitute two articles of diet that are still very plentifully and very generally consumed in the raw state in this country. (Milk, at least, is not used to any great extent raw except here and in England.) Of late years public opinion and State and municipal regulation have done a great deal to secure for us pure milk, but it was only after the sacrifice of thousands of children's lives that this was accomplished, and even the present condition of affairs with regard to the milk-supply of many of our cities cannot be a special subject of congratulation. It is not probable that any such serious lesson will ever come from the use of oysters, for they are consumed by the more resistive adult. In more than one instance, however, precious lives have been sacrificed to typhoid because of the neglect of the plainest precautions in the matter of the sewage contamination of oyster-beds.

This matter evidently demands the most careful consideration. We are not great believers in the efficacy of the legal regulation of such matters, for it brings with it many evils, but we welcome heartily the recommendation of the English commission that the oyster-growers and dealers themselves unite for the protection of their products from sewage contamination. They owe it to the public, and, besides, to look only at the sordid side of it, if the present uncertainty in the public mind with regard to the possible contamination of oysters continues, there will be a large falling off in their consumption. If the notion once gains credence that oysters are absolutely safe eating only when cooked, the injury done to the oyster trade will be almost incalculable.

LAPAROTOMY FOR PENETRATING WOUNDS OF THE ABDOMEN.

TWO recent discussions bring this subject prominently into notice once more. Professor Senn is reported by our Chicago correspondent (MEDICAL NEWS, December 3) to have said that a certain number of gunshot wounds of the abdomen recover without operation, and that a man shot from before backward at the level of the umbilicus or above it has a fair chance of recovery without operative interference. He has held this opinion now for several

years, has confirmed it experimentally and strengthened it by his experience during the Spanish-American War.

In our issue of last week we report the discussion of the same subject at this year's meeting of the Southern Surgical and Gynecological Association. This association adopted unanimously at its meeting last year a resolution to the effect, that in penetrating wounds of the abdomen it is the duty of the surgeon always to make an exploratory incision, so as to definitely determine whether the abdominal viscera have been seriously injured or not. This year's discussion brought out very clearly the fact that our Southern brethren, whose opportunities for seeing gunshot wounds of the abdomen are comparatively much greater than those of Northern surgeons, are still practically unanimous in declaring for laparotomy in every case. Even Dr. Parker, who had seen recovery without operation in about fifty per cent. of the penetrating wounds of the abdomen received during the recent war, still believes in laparotomy *in every case* in civil life. In active warfare circumstances are different. The wounds produced by the small bullet with high velocity of the modern military rifle are not always such as permit extravasation of the contents of hollow viscera and do not seriously tear, as often as might be expected, important blood-vessels. During the recent campaign, too, the facilities for abdominal operative work were necessarily imperfect so that expectant treatment was under the circumstances very good conservative surgery.

In civil life, however, gunshot wounds of the abdomen are often produced by large caliber bullets, of comparatively low velocity, whose lacerating power is increased by their carrying with them portions of clothing (something the rifle bullets during the war did not do). When such wounds are treated in a hospital where all the facilities are at hand for aseptic exploration, it seems taking needless risk not to make assurance doubly sure by actual inspection. Exploratory laparotomy in every case would certainly decrease the mortality, for even Professor Senn admits that in his experiment in only four out of sixteen cases did the intestines escape injury, even with the wounds above the umbilicus. A perfectly aseptic exploratory laparotomy ought, on the other hand, to add practically nothing to the patient's risk if proper precautions are taken to avoid shock, by exposing the intestines only as little as possible during careful exploration, and by making provision for keeping them at body temperature.

To wait till symptoms of perforation show themselves is to invite a fatal issue in nearly every case. The symptoms immediately following the injury are almost invariably dubious in the extreme, so that no rule of safe guidance for operation can be drawn from them. A great many lives would undoubtedly be saved by immediate laparotomy. The mortality of the cases that proved after exploration to have no intestinal perforation or serious bleeding-points would practically not be raised, so that despite our war experience the old rule as to immediate laparotomy for penetrating wounds of the abdomen seems a very proper one. Especially is this true if the wound has taken place within a couple of hours after the taking of a full meal. It seems unquestionable that some of the favorable results of abdominal gunshot wounds during the late war, were due to the fact that soldiers received them after fasting for long periods, or that the wounded were suffering at the time from some form of diarrheic trouble, which, while decreasing their appetites, secured a thorough emptiness of the intestines in other ways. Even a defective quartermaster department and the tendency to intestinal diseases among soldiers do not seem in this view to be entirely without their compensation or their places in Nature's conservatism. Such factors must not, however, be allowed to influence to any serious extent the surgical policy that will obtain for the next few years in the treatment of abdominal gunshot wounds in civil life.

THE PHYSICIAN AND HUMANITY.

THE American Humane Association met in Washington last week and the event was made the subject for editorial comment by most of the medical journals of the country. The tone of the editorials generally might lead the casual reader to think that physicians, or at least medical editors, are unalterably opposed to the movement for the prevention of cruelty to animals. This is far from being the case. Medical men as a whole are deeply interested in everything that will lessen the sum of the world's suffering whether among human beings or our

brothers of the brute creation. Force of circumstances alone has put us in the false position of seeming opposition to the Humane Association's work.

An unreasoning fanaticism is endeavoring to secure such regulation of animal experimentation as will practically nullify its scientific work. As medical men we are convinced that a great deal has been and still more will be done for the relief of human suffering by animal experimentation. This will involve the infliction of a limited amount of pain on a limited number of animals but will save many a precious human life and many an hour of human agony. We weigh the one against the other. Like the great physiologist Ludwig, whose discoveries were all made by means of animal experimentation, though he was the President of the Leipzig Society for the Prevention of Cruelty to Animals, we feel a humane interest in animal suffering and yet find ample justification for encouragement of what our opponents are pleased to call vivisection.

It would be ideally better perhaps, if we could stop animal experimentation, but pain is a necessary evil in the present dispensation and the purposeful infliction on animals of slight amounts of suffering leads to the saving of large amounts of it to human beings. But it is not alone human suffering that has been lessened by such experiments. The amount of pain inflicted by scientists bears no ratio to the amount of torture from disease that has been saved animals themselves by the observations upon their fellow brutes.

There is a spirit abroad in English-speaking countries that is growing in strength and that augurs ill for the continuance of that freedom of investigation so necessary to successful scientific research. The growth of this spirit is partly due to the persistent propaganda of their notions by fanatic antivivisectionists, but is more to be attributed to a failure on the part of people generally to understand what is meant by animal experimentation. It is known that large numbers of animals are used for experimental purposes. It is supposed that they die in awful torture from disease and operative procedures. This is not the case and the chance to see the actual workings of one of these experimental laboratories would be the best proof of it that could be had.

Most of the stock in trade of the professional antivivisectionist, the stories of horrible torture, burning, mutilation, etc., are drawn from times long since gone by. Some suffering there is but the dreadful torments are figments of a too vivid imagination. Stevenson the well-known English novelist was, as might be expected from his tender sympathies, an ardent antivivisectionist. Once while on a visit to this country, he spent some time in a well-known sanitarium for consumptives. While there he learned that the physician in charge was experimenting on guinea-pigs with the then recently discovered tubercle bacillus. His first impression was one of shinking from the physician of whom he thought so much. His health necessitated his staying, however, and gradually he learned to appreciate all that might be accomplished for suffering humanity by observation of animals suffering from the same disease. He learned especially that Koch's demonstration of the bacillus tuberculosus, which could not have been made without tests upon animals, enabled the physician to detect the first onset of the disease, and often, though not as often as he might wish, to prevent its fatal progress. With opportunities of observation similar to those of Stevenson, most antivivisectionists would cease their propaganda. There are some, we are sorry to say, on whom even this would have no effect.

Is not the pledge of a practically unanimous medical profession a sufficient guarantee that by animal experimentation a great work is being accomplished for science and for humanity? Much of the unselfish, because disease preventive, work of the modern science of hygiene has been made possible through animal experimentation and the medical profession has encouraged it though the diminution of disease meant lessened revenues.

Much of the animal experimentation is carried on at great risk of disease or even death, if the slightest precaution should be neglected, yet there has not been lacking in recent times members of the profession to fill up the ranks and take the martyrs' places. Has the medical profession not the right then to ask that the regulation of animal experimentation shall not be allowed to pass into such hands as will seriously hamper or practically prevent it?

The recent meeting of the American Humane Association at Washington had for one of its main objects the discussion of means to ensure the passage

of the Senate bill to regulate animal experimentation in the District of Columbia. It is there that the Government laboratories are situated, so that the falsely called regulation would mean the prevention of scientific work; besides the passage of such a bill is acknowledged by antivivisectionists to be but the entering wedge to secure legislative enactment elsewhere. Hence our opposition to this particular effort of the Humane Association, and hence the request that every medical man use any influence he may possess on Senators to prevent the passage of the bill in question.

THE STATION-HOUSE VERSUS HOSPITAL.

ANOTHER one of those unfortunate cases which turn up every now and then, of a man suffering from some ailment that renders him unable to account for himself being locked up as drunk, has recently occurred in our city and is attracting a good deal of public attention. It happens that the person involved was of some prominence, being officially connected with the consulate of a foreign government. There is to be, it is said, a rigid investigation. A number of such cases we are sure happen each year and are glossed over in the police records without any call for investigation. We hope that the present case, by the publicity that will be given it, will do something to make the police more careful in the matter of committal to the station-house of supposed "drunks" who ought to be taken to a hospital as "dangerously ill."

There is scarcely a large city in the world in which each year there does not eventuate at least one case in which the neglect of the guardians of the peace in this matter may not be considered as directly responsible for the fatal termination of an illness or at least the serious jeopardy of life. In the present case it was said, on the part of the police, that even though there may have been cerebral hemorrhage or cocain intoxication the man certainly had taken liquor. Of the truth or falsity of this statement we know nothing, but it is certainly no justification for imprisonment during illness, that the patient is slightly under the influence of liquor. Indulgence in alcohol may have been the immediate cause of the condition that has developed, be it cerebral hemorrhage or diabetic coma or uremic symptoms, yet this constitutes no excuse for the patient's committal to a station-house when he ought to be taken to a hospital. Especially should it be insisted upon that the odor of alcohol on the breath must not be taken as a criterion as to whether the man is drunk or not. The taking of a certain amount of alcoholic beverages with meals has become too common in this country for any such eminently fallacious symptom to have any further weight.

This matter is extremely serious; it may easily involve human life. The problems it presents are likewise difficult. Experienced medical men have been deceived time and again into making a false diagnosis of alcoholic intoxication when something quite different was the matter, though there may have been the odor of alcohol about the patient. The certain differentiation often requires the highest diagnostic skill. Familiarity with conditions of intoxication on the part of the unskilled does not beget a special faculty for differentiating allied conditions, but rather superinduces a disregard for even striking pathological symptoms and a tendency to dispose of the cases summarily by putting them at once under the rubric, drunk.

The police must be thoroughly imbued therefore with the idea that the slightest suspicious symptoms in a case picked up on the street, where no explanation of circumstances is available, calls for medical examination. There can be no excuse for neglect of this important precaution. Police surgeons are ready at call, and a hospital ambulance with its surgeon may be had in a few minutes. At times this care would lead to useless trouble for the case would prove to be only a drunk after all. But it is infinitely better that such calls on medical skill should be made dozens of times needlessly than that one real sufferer should have to pass the night in the comfortless cells of a station-house.

ECHOES AND NEWS.

Gift to the Polyclinic.—A handsome oil painting of the the late Professor R. C. M. Page has been presented by his widow, Mrs. Page, to the New York Polyclinic.

Five Thousand Dollars for a Pathological Laboratory.—Dr. E. D. Morgan has given $5000 for the equipment of a pathological laboratory in the Bussey Institute at Harvard, of which Professor Theobald Smith is the director.

Deaths of Soldiers at Manila.—The last sanitary report from Manila states that during the previous week there had been only two deaths among the soldiers, one of typhoid

fever and one of cerebral hemorrhage, the result of an accidental fall.

Presentation to the New York Academy Library.—Dr. A. Jacobi has presented to the library of the Academy of Medicine for Dr. Voss of Germany a copy of the original edition of Gasparo Aselli's book "De Lactibus," a very rare bibliophilic treasure.

Professor Roentgen Goes to Leipzig.—Professor Röntgen, whose discovery of the X-ray brought him so much fame, has resigned his position as Professor of Physics at the University of Wurzburg to take the Chair of Physics at the University of Leipzig.

Defective Christian Science.—If Christian Science is a science at all, it should embrace not one but all divinely appointed means of healing, and for it to reject the remedies shown to be efficient by centuries of medical experience, savors more of self-conceit than it does of the humble faith which it claims as its merit.—New York *Sun*.

Another Medical Playwright.—Sir Thomas Grainger Stewart, former president of the British Medical Association, Professor of Medicine in the University of Edinburgh, and one of Her Majesty's physicians in Scotland, according to recent advices, has just completed a chronicle play, entitled "The Good Regent," which will be published shortly by Blackwood & Sons.

A New Test of Death.—The sensational subject of premature burial has been attracting considerable attention in Russia and Austria, where several cases have recently been reported, and the need of a scientific test of death has suggested the use of Röntgen-rays. The slightest movement of the heart blurs the skiagraph, and in Paris the X-rays have already been successfully used as a test of death.

A New Fad in Diet Reform.—The "Simian School" of Michigan tends very closely to strict vegetarianism. They grind nuts into various flours and meals, make combination foods of nut-meals and dried fruits, issue recipes in which the chief ingredients are nut-meal or flours, fruits fresh and dried, honey, sugar, milk, cream, butter, cheese, and buttermilk. Most of the followers object to meat as a food, but tolerate it when employed medicinally.

Recent Appointments in New York Hospitals.—Dr. Robert H. M. Dawbarn has been appointed visiting-surgeon to the City (Charity) Hospital. Dr. Thos. H. Manley has been reinstated as visiting-surgeon to the Harlem Hospital, and Dr. H. M. Silver has been reappointed to the visiting staff of Gouverneur Hospital. It has been reported, but upon how good authority we know not, that the last two appointments inaugurate the beginning of the establishment of the *statum quo ante*.

The Skin and Cancer Hospital.—At the recent annual meeting of the New York Skin and Cancer Hospital officers were elected for the ensuing year. Reports were received and read from the committees and departments of the hospital in relation to the work of last year. The year has been a notable one for the institution on account of the completion of its new building, at Nineteenth Street and Second Avenue, which has been built from the proceeds of the real estate formerly held by the hospital.

Corpse Fled from Coroner.—Coroner Apgar of Peekskill, N. Y., having been notified that a man was lying dead alongside the highway some five miles out of town, secured an undertaker, and with him drove out to the place where the corpse was said to be lying. In the meantime, the man who had been reported frozen to death had thawed out. When he showed signs of life and was told that the coroner and an undertaker were coming, he pulled himself together, "took a hitch in his belt," and left in a hurry.

To Check Tuberculosis.—There has been a great deal of talk recently of the need of some widespread action to cope with the increasing ravages of Great Britain's national disease, consumption. The Prince of Wales summoned a private meeting at Marlborough House December 20th to promote a war against tuberculosis. The Marquis of Salisbury and a number of famous medical men were present and participated in the proceedings. The spread of the gospel of cleanliness is a most excellent vocation for even the Prince. It is to be hoped that his efforts will take that direction.

Scientific Poisoning.—Sir James Crichton Browne, M.D., recently delivered an address on poisons and poison legislation before the Pharmaceutical Society of Great Britain, in which he pointed out that notwithstanding the remarkable progress of toxicology and the vast increase in the number and variety of deadly agents at the criminal's disposal, the poisoners of to-day, for the most part, use the same poisons as those by which murder was oftenest accomplished in olden times. Women and medical men, says Sir James, are the classes which have supplied the most numerous and most notorious poisoners.

Empress Loses Flesh and Health.—The Empress of Germany for some time has been using thyroid tablets as regular treatment for obesity. While she has succeeded in reducing her weight, she has been suffering seriously in general health, is becoming nervous, and is threatened with heart trouble. It is said that the Emperor, therefore, has induced her to stop using the remedy. The experience of the profession in this country emphasizes the opinion that thyroid extract is a serious heart depressant, that it should be prescribed with caution, carefully watched, and administered in conjunction with heart tonics.

Election of Officers of the New York Academy of Medicine.—At the meeting of the New York Academy of Medicine, held on Thursday, December 15th, the following officers were elected for the ensuing year: President, Wm. H. Thomson; vice-president, Hermann Knapp; trustee, E. G. Janeway; treasurer for the trustees, W. F. Cushman;

member of committee on admission, R. H. Sayre; member of committee on library, A. Caillé; delegates to the State Society, J. H. Huddleston, E. Lefevre, L. F. Bishop, J. A. Booth, James Ewing. Dr. Abraham Jacobi had withdrawn his name from nomination for the office of trustee.

The New Gas in the Air "Etherion."—The new gas which Mr. Charles F. Brush thinks he has discovered he has named etherion because it seems to possess some of the wonderful properties of the ether, which by hypothesis is the conducting agent through space of heat, light, and electric radiations. This is the fourth new substance, if the discovery is substantiated, found during the last few years to exist in the very air we breathe. It is the third new element that discoverers claim to have demonstrated in the atmosphere during the present year. This active awakening in inorganic chemistry can scarcely fail to have significant results for medical, especially physiological, chemistry.

The Antivaccination Law Criticised.—The new law enabling conscientious objectors to escape vaccination by making a statutory declaration has been availed of to exempt thousands of children from vaccination. Sir Richard Thorne, the principal medical officer to the Local Government Board, London, in his official report on vaccination during the last year, announces that one-third of the children in England and Wales have escaped vaccination. He predicts that the country is being prepared for widespread epidemics of smallpox, such as are unknown to the present generation. It is suggested, in order to counteract the antivaccinationists, that insurance companies refuse to issue policies to unvaccinated people.

Meeting of the New York Medical League.—On Friday evening, December 16th, the Manhattan Section of the New York Medical League met and discussed the subject "Midwives and Their Illegal Practices." W. A. Purrington, Esq., read a paper on "Some Legal Aspects of the Midwife Question." Mr. Elbridge T. Gerry's paper on "Midwives as Illegal Practitioners" was, owing to Mr. Gerry's illness, read for him. Dr. Theodore K. Tuthill read a paper on "Ways and Means of Dealing with the Illegal Practices of Midwives." A very interesting discussion followed. Owing to pressure on our columns this week we are unable to reproduce the abstract of the papers and discussion, but shall do so next week with editorial comment on the question.

Medical-Expert Evidence.—Justice John Woodward, in a paper on "Medical Expert Testimony," read before the one hundred and thirty-eighth meeting of the New York Society of Medical Jurisprudence, defended the present procedure. "A radical change," said the Justice, "is neither desirable nor possible. Every system of evidence must admit expert testimony, and all expert testimony is subject to human limitations. The medical profession must exalt the expert by investing in him as their representative all the dignity of his order. If he prove untrue to their confidence they should know what course to take to preserve their purity. The law, on the other hand, should invest the position with every safeguard, that the expert may not be influenced by bias, self-interest, or compulsion."

The Queen of Portugal; a Withdrawal and Apology.—The *British Medical Journal* confesses to having been the original publisher of the story that the queen of Portugal was studying medicine and that her first patient had been her husband, under treatment for obesity. The statements were formally contradicted by the Lord High Chamberlain of Portugal, and the Journal endeavored to set the matter right, but the story has been on its travels for some time. "There does not seem to be," quoth the editor of the *Journal*, "in the world of journalism, a bourne from which no traveler returns." We sympathize with the aggrieved editor, whose "bad pennies" come back to him thus inevitably despite his regret for their *utterance*. And as the MEDICAL NEWS has innocently been one of the guilty parties we make our humblest apologies to the Queen of Portugal and withdraw the story.

Contract-Surgeon in the United States Army. — For those seeking appointment the following requirements are exacted by the Board of Examiners: Evidence of graduation at a regular reputable medical college, diploma to be submitted to the board. Proof of hospital or other professional experience will be of benefit to the candidate. Candidates must be in good health, of reasonably sound physique, and citizens of the United States. The examination is of a practical nature, embracing hygiene, practice of medicine, pathology, and surgery. In addition, a thesis on some professional topic will be prepared by the candidate. The pay of acting assistant-surgeons is $150 monthly. The applicant must be free from physical defects which would incapaciate him from the military service. For further information address Major H. S. Kilbourne, surgeon, United States Army, Army Building, 39 Whitehall Street, New York City, President of Board of Examiners.

Dr. Archdall Reid on the Temperance Question.—Dr. Reid, in a pamphlet, assumes that inborn or congenital characters only are transmitted to the offspring, while acquired characters are not transmitted. Man is still undergoing evolution at the present day, and this consists in the main of acquiring immunity against disease or the effect of powerful drugs, including harmful narcotics. Man is being evolved in the direction of decreasing his normal craving for alcohol. In proof of this theory, Dr. Reid states that where wine is most plentiful, as in Southern Europe, there is less drunkenness than in countries where acoholic stimulants are more difficult to obtain. The novel view is advanced that anything that tends to restrict the supply of alcoholic beverages will tend toward perpetuating drunkenness. The innate drunkard, when discovered by allowing every one free access to alcohol, must be treated as a lunatic, and not allowed to procreate. By artificial selection, then, the alcohol-tainted "germ-plasm" will finally be eliminated, and we will see the human race entirely immune to alcohol.

A Correction.—In making our announcement last week in reference to the articles on garrisoning the tropics, we stated that Dr. Azel Ames was going out to Puerto Rico as chief medical officer on the staff of General Henry. This was an error. Dr. Ames writes: "In the performance of my duty I shall be a plain acting assistant-surgeon of the United States Army under the orders of the chief surgeon of the department, Lieutenant-Colonel John Van R. Hoff, surgeon United States Volunteers (major and surgeon United States Army), who not only most ably fills the position, but is a competent sanitarian under whom it is a pleasure to serve. . . . To the cordial and highly intelligent support given at all times by General Henry to sanitary work, and the competent supervision and cooperation of the chief surgeon, the greater part of such results as have been achieved with the army and people of Puerto Rico in sanitary affairs has been due, as it must be for the future." Dr. Ames was formerly Sanitary Inspector in the Department of Ponce. His field of operation will now embrace the entire island.

A New Official Position for Doctors.—One of the contestants in a recent prize-fight in England died shortly after receiving a blow on the chest. The fighting had not been severe and the blow was not such a one as in experts' minds was calculated to do serious harm. Moreover post-mortem examination disclosed the existence of an extremely small heart. The jury brought in a verdict of accidental death but with the "rider" that in future boxing contests the contestants' conditions should be carefully examined and their fitness certified to before the contest be allowed to take place. This will constitute a new set of duties for physicians for which a certain amount of special training may be required. Some time ago in France a book appeared on the etiquette to be observed by the surgeon called in attendance on a duel. If the English Coroner's jury's recommendation prove effective, we may look for pamphlets and manuals on "the proper conduct of the physician when called to attend an exhibition of the manly art." May we add that one of the indispensable qualifications will not be to be an expert in aphasia.

Climate and Conditions in Manila.—The following from an American naval officer who visited the Philippines shortly before the breaking out of the recent war will be of special interest now that it is definitely settled that the islands are to be ours. It gives in brief a good notion of how different the conditions are there from what obtains here, and how promptly intending settlers will have to change their ideas as to business hours if they are to retain their health during their residence in the tropics: "The climate of the islands is healthy but hot. The maximum range of the thermometer is 103° F., but a sea breeze usually sets in about 5 P.M. and lowers the temperature. The greatest annual rainfall recorded is 114 inches, the least 84. There are 323 Europeans and Americans, 4506 Spaniards, 16,520 Chinese, 47,662 Chinese Mestizos (half-breeds), 4963 Spanish Mestizos, and 200,966 pure natives in Manila. The population seems to be divided into the clergy, the officials, the half-breeds, and the native Indians. The business hours are from 5 to 9 in the morning and from 5 P. M. to midnight. The middle of the day is devoted to quiet lounging and sleep." —"An American Cruiser in the East," by John D. Ford, 1st Engineer of the Pacific Station, U. S. N.

This Is Not the Stuff of Which Martyrs Are Made.—Mrs. Eddy, the "mother" of the Christian-Science Church, has written a letter to the New York *Sun* which concludes as follows: "To be stoned for that which our Master sought to designate His best works, saying, 'For which of these works do ye stone me?' is thereby to make known the best work of Christian Science." Let us see how likely Mrs. Eddy is to wear the martyr's crown. She is engaged in the business of selling a book which has now passed its 153d edition. The price of this book is $3 ($3.18 by mail); this book can be put on the book-store shelf at a cost of less than forty cents. She also sells a number of other works at proportionate rates. For many years she ran a "metaphysical" college, and her students paid well for the privilege of learning how they could in their turn profit by the propagation of Christian Science. She preaches the unChrist-like doctrine that "no one has any business to be poor." She communicates with the outer world through her "counsel, Judge So-and-so," etc. And Mrs. Eddy claims to be a disciple of Jesus Christ! What an excessively malodorous business it is, and how repugnant to people of true religious instinct.

The Plague in Samarkand, Russia.—Prince Alexander, who went out to Samarkand by order of the Czar, as president of the commission appointed to take measures against the bubonic plague, reports that he found in the village of Anzob, where the plague was raging, a hospital had been established and proper quarantine regulations inaugurated. The local doctors have pronounced the disease bubonic plague. To prevent the further extension of the plague three lines of medical stations have been established on the various routes leading from the infected town. Flying medical military detachments supervise these stations, as well as the whole of the surrounding districts. In anticipation of the possible spread of the disease, reserves of doctors and nurses are being summoned in the principal cities of the empire, who must be ready to go at a moment's notice. At present these reserves consist of 100 doctors and 80 nurses. All the means for inoculation according to Jersen's system are supplied in abundance; also the remedies of Kharkin are being prepared in the Imperial Institute of Experimental Medicine at St. Petersburg. The doctors have been instructed to use these and to publish them among the population. Of the 357 inhabitants of Anzob, 233 have died. Since October 22d there have been no new cases. There are in all fourteen cases at present.

An English Medical Hero.—The Victoria Cross has been recently conferred upon Surgeon William Job Maillard, M.D., of the Royal English Navy, for conspicuous bravery during the outbreak at Candia, on September 6, 1898. The act of courage for which he was recommended for

this highest and most exclusive distinction for bravery in the world was as follows: During the landing of seamen from Her Majesty's ship "Hazard" Surgeon Maillard, who had disembarked and reached a place of safety, returned through a perfect deluge of bullets to the boat and endeavored to bring into safety, Arthur Stroud, ordinary seaman, who had fallen back, wounded, into the boat, as the other men jumped ashore. Surgeon Maillard failed to bring Stroud in only through the boat being adrift, and it being beyond his strength to lift the man (who was almost dead) from off so unstable a platform. Surgeon Maillard returned to his post with his clothes riddled with bullets, though he, himself, was unhurt. Such are the glorious deeds, and they are not few in number, that have finally won from the military authorities of England that recognition for the Army medical corps that it deserves. Until recent reforms the men who did them were sneered at as non-combatants and superciliously considered not to be equals of the men who did the fighting.

A Second Death from Hydrophobia.—We reported some weeks ago the death of August Bombadi of Astoria, aged five years, from what was supposed to be hydrophobia. We now have to report another, that of Otto Quast, aged five. Both cases occurred in children too young to have been frightened into hysterical convulsions in the midst of which some intercurrent affection might carry them off, so that the ordinary explanation given for American hydrophobia cases in these instances falls to the ground. The little Bombadi had not been specifically treated. Otto Quast had been under treatment at the Pasteur Institute of New York, but the bite was on the cheek and the prognosis of head bites being very unfavorable even with prompt treatment, the parents had been told that the treatment was not sure to prevent the development of the disease. Three other persons, two children, respectively four and eight years of age, and a young man of seventeen, were bitten during the same day as these children, October 19th, in the same neighborhood and presumably by the same animal. Young Quast's father had also been bitten quite severely, but on the hand, by the large brown dog that had attacked his son. The wounds of all four of these are on the arms and hands, which are not so dangerous. They promptly underwent the Pasteur treatment so that further fatal results are not to be feared. The series of cases is an extremely interesting one, however, and we shall endeavor to secure further details of them so as to make them available for thoroughly scientific medical criticism.

SPECIAL ARTICLE.

BACILLARY CONTAMINATION OF OYSTERS.

THE third and final report of the Committee of the British Association for the Advancement of Science appointed to report on the "Elucidation of the Life Conditions of the Oyster under Normal and Abnormal Environment, Including the Effect of Sewage Matters and Pathogenic Organisms," has been drawn up and presented by Professor Herdman, Professor Boyce, and Dr. Kohn.

In nine out of nineteen samples of oysters examined a colon-like bacillus was isolated from the interior of the oysters. In some samples there was almost a pure culture of the colon bacillus. Careful investigation shows that some of the organisms in the colon-bacillus groups thus isolated are much more closely related to the bacillus of typhoid fever than are others. For instance, while the typical colon bacilli coagulate milk, form indol and gas, and give a decided acid reaction as well as an abundant growth upon potato, groups of the bacilli were isolated which did not exhibit all of these qualities. Indeed, one group of very active bacilli did not coagulate milk nor form indol, though occasionally forming gas, and gave rise to an acid reaction in two cases, and an alkaline reaction in three cases. This group of colon bacilli and some of the others in a less degree were suspiciously like typhoid bacilli, but the serum reaction, carefully tried, always gave negative results so that it was not the true typhoid bacillus.

The presence of the colon bacillus and its congeners usually means sewage contamination. A previous report of this committee has shown that oysters kept in water into which sewage drained contained many more microorganisms than those of the same variety kept only a short distance away in pure water, and that oysters were able to make use of sewage as food material.

There is evidently, therefore, need of regulation in the matter of oyster growing. The committee recommend either that restrictive legislation be called in and oyster-beds be licensed only after due inspection by Government officials, or that an association be formed among oyster-growers and dealers themselves, which shall provide for the due periodic examination of the grounds, stores, and stocks by independent, properly qualified, inspectors. The commission is of the opinion that the scientific assistance and advice given by such independent inspectors would go far to improve the condition of the oyster-beds and layings, to reassure the public and to elevate the oyster industry to the important position which it should occupy. The concluding recommendation is that other forms of shell-fish, and the grounds from which they are gathered, should be periodically examined by scientific inspectors in the same manner as the oyster-beds, precautions being just as needful, perhaps more so, for these as for the oysters.

CORRESPONDENCE.

THE COLOR OF NEGRO BABIES.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—The editorial in the MEDICAL NEWS December 10th, entitled "The *Lancet* and the Color of Newly Born Negro Children" recalls an incident which occurred at a lecture on obstetrics at the College of Physicians and Surgeons, New York, a few years ago.

Professor J. W. McLane had brought a newly born colored child, a day or two old, into the lecture-room to illustrate his remarks on the subject of the lecture. The

child's color was anything but black or white, but it approached most closely to a dark salmon color.

The professor held the piccaninny at arm's length and in his peculiarly delightful manner asked the class what the baby's color was. Some said white, while others said black. To both of these responses the witty professor shook his head in the negative and in true Irish fashion, remarked, "It's nather; its red."

Dr. McLane then added that as a rule piccaninnies were red at birth while white children were gray.

Very respectfully,

A. L. WOLBARST, M.D.

NEW YORK, December 17, 1898.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—The color of a newly born negro child is what we term a light "ginger-cake" color. This light color prevails, as a rule, even if both parents are typical blacks, almost as much so as when mixed with a large percentage of white blood. There are a variety of shades from the darker to very light, almost indistinguishable from the color of a child of white parents. I have never seen a newly born negro child black; though a few are dark they are always lighter than their parents. Often it would be a difficult matter to decide whether the child was of white or negro origin unless the parents were known. My attention has frequently been directed to their color, so much so as to cause me to ask if the child did not have a white father.

On examination, generally, small areas of darker or almost black skin will be found, especially about the genital organs, if a male, and around the anus. The prepuce is generally very dark or black.

D. M. PROVENCE, M.D.

BARWELL, S. C., December 15, 1898.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—To relieve the perplexity of the *Lancet*, and in the interest of accurate observation of minor points in practice I shall proceed to state the color of a new-born full-blooded negro baby. I have delivered a score or more of the little problems this year and speak from ocular demonstration. A new-born full-blooded negro baby is neither white nor yet is it black but is of a dusky red color. In some, though not all, the scrotal integument and that about the flexures of the principal joints is black at birth, but the general surface is of a dusky red.

Respectfully,

C. J. MARCH, M.D.

FORDYCE, ARK., December 12, 1898.

HARVARD NOT THE PIONEER.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—In the issue of the MEDICAL NEWS for December 10th occurs the following sentence with regard to the building of an infirmary for Harvard: "Harvard is to be congratulated on being a pioneer in this as in so many other things that tend to make student life more livable." If in the place of *Harvard* you put *Cornell* you will be correct. Last year Dean and William Sage gave to Cornell University the mansion of their late father, as a memorial to him, to be used as an infirmary; and they not only fitted it up and equipped it for that purpose but for its perpetual maintenance they presented with it an endowment of $100,000. A description of this building may be found on pages 56-58 of the Annual Report of the President of Cornell University for 1897–98.

Respectfully,

W. I. HOAG, M.D.

INDIANAPOLIS, IND., December 12, 1898.

[Honor to whom honor is due. Cornell University is evidently the pioneer in this beneficent work.—ED.]

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

AN INFLUENZA EPIDEMIC—SMALLPOX IN PENNSYLVANIA—CONTAGION AND INFECTION—BOTTINI'S OPERATION—DISSECTING ANEURISM—THE WIDAL REACTION—FREE HOSPITAL FOR CONSUMPTIVES—CHARITY BEQUESTS—PERSONAL NOTES—HEALTH STATISTICS.

PHILADELPHIA, December 20, 1898.

WHILE we have been accustomed, ever since the epidemic of 1889, to call any severe "cold" a case of the grippe, there is now a genuine epidemic of influenza in this city. It seems to be of a mild type, but the rapidity with which it is spreading makes it seem likely to prove quite a factor in the list of winter affections this year.

Smallpox has broken out at Bedford and Huntingdon, about thirty cases having been reported thus far. General vaccination and house quarantine have been ordered by the State Board of Health which, it is hoped, will check the epidemic.

At the same meeting Dr. Lawrence F. Flick, in a paper, entitled "Contagion; Its Meaning and Limitations," attempted to define the exact difference between the words "infection" and "contagion." He believes the key to a distinct understanding lies in going back to the original definite use of the words, thus including the greater number of diseases under the first head. Contagion, according to Dr. Flick, should be applied to those diseases which are transmitted without the aid of an intermediate host, an unbroken chain, while infection must entail the lodgment of the organism in an intermediate host. He also made a division of diseases under these headings, though he admitted that this was difficult, if not impossible.

Dr. Augustus A. Eshner, in the discussion, took an opposite view believing that "contagion" should be restricted to disease spread by actual contact and, further, he classified the parasitic skin and intestinal diseases as "invasion diseases." Dr. Solomon Solis-Cohen also disagreed with Dr. Flick, and probably expressed the views of most medical men when he said that he favored classifying diseases as "infectious," with a subdivision of some as "contagious."

Dr. A. Feree Witmer read a paper on "Aphasia from an Unusual Cause," and exhibited the patient, a young boy, whose symptoms had come on after an epileptic convulsion. Paraplegia had been present also and the case

seemed to have clearly been caused by a cerebral hemorrhage occurring during an epileptic attack.

A report on "Bottini's Operation for Enlargement of the Prostate Gland; Exhibition of Instrument" was presented by Dr. A. J. Downes. The operation was performed with Freudenberg's modification of Bottini's instrument, which consists of a hollow bougie in which a cautery-knife, having electrical attachments, is concealed and through which a continuous stream of ice-water flows to keep the instrument cool. After introduction, the blade, which has been heated to a cherry red, makes the desired number of incisions, hemorrhage being almost *nil*. Dr. Downes introduced half an ounce of a four-per-cent. cocain solution into the urethra, preferring to use this large amount and washing the excess away rather than to allow a less amount to remain. His case was most successful.

At a meeting of the College of Physicians, held December 12th, Dr. Judson Daland reported a case of "Dissecting Aneurism of the Thoracic Aorta," occurring in a male, aged thirty-eight years, who gave a clear history of alcoholism. The aneurism had caused death finally by rupturing into the pericardium. During the time the patient was under observation, he had presented symptoms of mitral regurgitation, arteriocapillary fibrosis, and chronic nephritis.

Most favorable results were reported by Drs. Sailer, Campbell, and Grissinger, with the Widal reaction. A wet method, by using a Thoma-Zeiss pipette, was found preferable to the dry and, Dr. Sailer believes, is much more reliable. In the discussion Drs. Scott and Daland said they had seen cases of various other infections in which an equally positive and erroneous reaction had been yielded. Drs. Osler, Stengel, and Eshner spoke of the occasional delayed appearance of the reaction.

The Philapatrian Ball, which is to be held February 13th, will be for the benefit of the Free Hospital for Consumptives. Dr. Lawrence F. Flick, President of the Pennsylvania Society for the Prevention of Tuberculosis, is also president of this hospital, which was organized in 1895. The hospital devotes all money received to placing patients in already existing institutions thus saving the expense of erecting buildings. Philadelphia, including its almshouse, has only about 200 beds for this unfortunate class of people, most hospitals refusing to take cases, and the amount of good accomplished by the Free Hospital can hardly be overestimated.

By the will of Eliza W. S. P. Field, who died in England about a year ago leaving the bulk of her estate to charity, the following bequests to institutions in this city were made: Home for the Incurables, $10,000; Germantown Hospital and Dispensary, $500; Children's Hospital, $1000; University of Pennsylvania, for two scholarships, $10,000; for a free bed to be known as the John White Field bed, $5000; the Abbey Willing Peters bed, $5000, and for the Hospital, $20,000. The Maternity of the University receives $10,000 also, and for general purposes $10,000 more is given.

Dr. M. S. French, Secretary of the National Relief Committee, has left for the South to visit the various camps, and Major D. C. Peyton, who has charge of the Government hospital work in Philadelphia, has gone to his home in Indiana on leave of absence for two weeks.

Dr. J. J. Gurney Williams, senior resident-physician of the Episcopal Hospital, was extensively burned while using the X-ray apparatus last week. The burned surface resembled that from ivy poisoning, and while not severe, was exceedingly painful.

Dr. John Lindsay, Secretary of the Philadelphia County Medical Society, is severely ill with pulmonary tuberculosis.

Dr. S. Weir Mitchell sailed for Europe last week on the "Kaiser Wilhelm."

Dr. Leonard Pearson, State Veterinarian, has gone to Pittsburg to investigate an outbreak of hydrophobia. Dr. Benjamin Feicht died last week after having been bitten by a rabid dog and since then there have been two other victims.

The total number of deaths occurring in Philadelphia during the week ending December 17th, as reported at the Health Office, was 481, of which 118 occurred in children under five years of age. The total number of new cases of contagious diseases was 313, reported as follows: Diphtheria, 103 cases, with 28 deaths; scarlet fever, 32 cases, with 1 death; typhoid fever, 178 cases, with 16 deaths.

OUR LONDON LETTER.

[From Our Special Correspondent.]

POPULAR CLASSES AT THE MEDICAL MUSEUM OF THE ROYAL COLLEGE — THE STUDY OF TROPICAL DISEASES — SURGEON MAILLARD HONORED WITH THE VICTORIA CROSS — ELIMINATION OF THE SMOKE NUISANCE IN LONDON—RIDER HAGGARD'S "DR. THERNE" — FURTHER DEVELOPMENTS IN CONNECTION WITH THE ABORTIONIST BLACKMAIL SCHEME.

LONDON, December 15, 1898.

A DEPARTURE well worthy of imitation in the utilization of our medical museums in America may be seen here on Saturday afternoons. Every alternate Saturday half-holiday the Curator of the Museum of the Royal College of Surgeons devotes an hour and a half of his valuable time to taking classes of school-teachers, workingmen's clubs, and students of night-classes through the superb anatomic and physiologic galleries of the museum. The principal objects and specimens of interest are pointed out and a charming, popular lecture with demonstrations is made out of them. The parties often number forty or fifty persons, and the interest manifested is of the keenest. On certain afternoons of the week the normal rooms of the great osteologic collection of John Hunter are open to teachers and students in science classes, and those from the National "extension" school of science which has its headquarters at South Kensington are permitted quite extensive privileges in "getting themselves up" for examination in the spring.

The laity are becoming eager for enlightenment upon both physiology and pathology and we shall wrong our profession if we do not supply it freely, instead of leav-

ing it to the "treatises," "mothers' friends," and "confidential advice," of Warner, Pierce, Hostetter, *et al.*

The idea of the hospital for the study of tropical diseases seems to be almost as infectious as the maladies it is to have care of. Several of the London schools have intimated that they are prepared to offer all the facilities required in that line by colonial physicians, and now Liverpool announces similar intentions. Mr. Alfred Jones has offered the sum of $1750 a year for a term of years for the laboratory, and the Royal South Hospital is to furnish a ward for the cases. There ought to be no lack of material in Liverpool.

There appears to be some professional dissatisfaction with the methods of the Government in establishing the new School of Tropical Medicine. The present staff of the hospital utilized have issued a protest based upon the statement that they were not properly consulted before the departure was announced and their names published as teachers. On the other hand, certain medical colleges seem to be jealous of the honors thrust upon this small and little known hospital. We sincerely trust that the proverbial "differing" of doctors will not be exhibited in public and so hamper the scheme.

The Bradshaw Lecture was given this week at the Royal College of Surgeons by T. Pickering Pick upon "The Union of Wounds." He absolutely declined to limit the term "inflammation" to septic processes due to the presence of micro-organisms as proposed by Park and Roser, and took the position that every one of the five "methods" of wound-healing is due to inflammatory processes of greater or less intensity. This of course brought him face to face with the question whether this inflammation is really a pathologic process, which the lecturer after careful discussion decided in the affirmative. It is a "reaction of degeneration," a reversion of the cells to an embryonic type of reproduction and product, and results in the ultimate substitution of a lower form of tissue. Scar-tissue, although functionally physiologic is structurally and developmentally pathologic.

The "heroes of peace," or at least of peaceful occupations are getting their share even of official recognition at last. Queen Victoria has decided to confer the Victoria Cross upon Surgeon Maillard of the Royal Navy, for distinguished bravery during the recent attack by the British iron-clads upon Crete. While the troops were being landed one of the sailors was wounded and fell back into the boat while the other men rushed on shore. Dr. Maillard who had reached a place of safety promptly dashed back through a perfect hailstorm of bullets to try to bring his patient into shelter. The man, however, was found to be in a dying condition and was too heavy for the brave surgeon to lift out of the drifting boat, so that he was obliged to leave him and return to his post. His clothing was cut to ribbons by the bullets, but he himself by a miracle escaped unhurt.

The military authorities seem to have profited by the storm of censure which their pig-headed refusal to grant a similar decoration to the surgeon of the Gordon Highlanders for similar heroism at Dargai, simply because he was a *civilian*.

A vigorous crusade has at last been set on foot against the smoke-fog nuisance in London. Sir Henry Richmond has organized a determined onslaught upon the vestries or parish councils to compel the enforcement of existing laws which rigidly limit the amount of black smoke permitted to be poured out by factories. Experts declare that by proper stoking and arrangement of flues to draw the smoke back through the furnace before permitting it to escape, black smoke can be absolutely done away with and with postitive economy of fuel. The only obstacles are the carelessness of the men and the short-sighted stinginess of the owners. If this triumph could be achieved it would add greatly not merely to the comfort but also to the healthfulness of London in winter. One day of fog is depressing but two or three of it in succession sends up the mortality bills at once, not by respiratory diseases as is usually supposed by every one who has swallowed the reeking, woolly, vapor, but in all sorts of wasting diseases for the depression of vitality due to the absence of sunlight. The same effect may be noted upon our involuntary citizens, the animals at the Zoo; a black fog sends up their death-rate worse than the severest storm or the sharpest frost.

The verdict in the Harold Frederic case was about what was expected. The prosecution, at the close of the evidence, asked the court to dismiss the case against Miss Lyon who, though deluded, they believed to have been sincerely devoted to the deceased, and the Judge acceded and included Mrs. Mills, the "healer," on the ground of insufficient evidence. This really seems the wisest course for it was clearly shown that Harold Frederic though erratic, was fully competent to decide upon what form of treatment he preferred and had done so deliberately. In fact, we have the best of authority for the statement that he really had no confidence whatever in either Christian Science or rational medicine, and chose the former simply because it interfered least with Nature and his own preference. Doctors took away his beer and cigars and kept him in bed, upon some absurd theory about vegetations upon his valves; Mrs. Mills told him he had neither vegetations nor valves and could do just as he pleased. So he chose her as a medical adviser—and died suddenly. In the language of the prairies, "Whose funeral is it?"

We certainly are coming to the front as a profession. After consistently abusing us for centuries—mainly because we richly deserved it—literature has actually begun to mention us with approval and even champion our causes. A most unexpected and efficient ally in our campaign against smallpox has just appeared in the form of a novel by no less a writer than Rider Haggard. "Dr. Therne" is a brilliant and skilful *expose* of the antivaccination crusade and its demagogic methods, in which the hero is a leader, and culminates in a masterly description of the fearful epidemic which devastates England, when after twenty years of the "conscience-clause" vaccination has become obsolete. It is a fascinating story as well, and aught to be "a Douglass in the field" for our side—if the "antis" ever read anything except their own lying pamphlets.

A singular "baby-powder" has just been reported from

the town of Blackburn. A physician was called to see a child aged four weeks which he found in a severe attack of colic. Pain had already persisted some days, and upon looking into the mouth he detected a distinct blue line upon the gums. The most careful search and questioning failed to discover any source of lead until he happened to take up a paper of dusting-powder which lay upon the mantel and found written upon it, to his horror, "Powdered White Lead." The nurse, an experienced (!) woman, had been told this was excellent for babies' skins, and purchased it at a drug-store! The nipple of the feeding-bottle was found resting upon the paper. The child recovered, although perhaps its skin is not as brilliant as if the complexion-powder had been continued.

Two cases of the fascinating African "sleeping-sickness" are now in the Seaman's Hospital, both being in Congo natives—a man of twenty-two, and a boy of eleven. Both began to be drowsy in May last, falling asleep over their work, and even over their meals, and the lethargy has gradually deepened until they now sleep all day long, but can be awakened to swallow food. The man can be roused to answer questions but the boy is almost unconscious. This remarkable disease has a latent period of from three to seven years after infection, and a chronic course of from six to fifteen months, but is invariably fatal. It will depopulate whole villages, ploughing through the population at the rate of fifteen to twenty per cent. per annum, until half are dead and the remainder fleeing in terror. No case has ever originated outside of a certain zone upon the west coast of Africa, but in the days of the slave trade negroes would sicken and die of it years after they had been brought to the West Indies.

The abortionist blackmail scheme of "C. J. Mitchell" proves even more gorgeous than was at first suspected. The affair was engineered by three brothers of the suggestive name of Chrimes who not only sent the "official" letters threatening prosecution, but had previously advertised and sold the remedy to their unsuspecting victims, thus securing double profits. From the overwhelming nature of the evidence against them it looks as if they might secure a third and unexpected one. The attitude of the press is being aired in the most edifying manner. Publishers can no longer plead ignorance or oversight for it has been shown in this trial that their rates for such advertisements are double, treble, and even quintuple the ordinary rate. Most useful of all, the case has drawn from the police authorities the public notice that in future all newspapers inserting such advertisements after one warning, will render themselves liable to prosecution for inciting to crime!

What won't the antivivisectionist make capital out of? A public meeting has just been held in London for the purpose of calling attention to the fearful danger to which the community is being exposed by soulless doctors, as illustrated by the outbreak of the plague at Vienna, the "bearing of which observation" as Captain Cuttle remarks, being explained when a resolution was introduced protesting against public money being used to establish a central bacteriological laboratory for London. It was casually remarked that of course men whose finer feelings had been utterly blunted by inflicting agonies upon dumb guinea-pigs, could not be expected to reck in the least what risks their experiments with the virus of deadly diseases exposed the public to!

TRANSACTIONS OF FOREIGN SOCIETIES.

British.

CONGENITAL STENOSIS OF THE PYLORUS—CANCER OF THE LARGE INTESTINE—CHANGE IN THE TYPE OF TYPHOID FEVER IN THE LAST FORTY YEARS—SEQUELÆ OF INFLUENZA—VASCULAR MURMUR OF OBSCURE ORIGIN—SARCOMA AND COLEY'S FLUID—RARE CASE OF MULTIPLE DERMOIDS—HYPERPYREXIA—A RABBIT'S FEMUR USED TO SUPPLANT AN ULNA — CANCER OF THE WHOLE INTESTINAL TRACT—DANGERS OF IMPURE ANESTHETICS.

AT a meeting of the Royal Medical and Chirurgical Society, November 8th, CAUTLEY read a paper on "Congenital Hypertrophic Stenosis of the Pylorus," a condition of importance in its relation to hypertrophy of adults, as well as in its immediate effect on the life of the infant. Since 1841 some twenty undoubted cases of this condition have been reported. The child was usually fine looking at birth, but characteristic symptoms soon made their appearance. Such were: (1) Vomiting, occurring without apparent cause, and persisting in spite of treatment; (2) the absence of bile from the vomited matter; (3) obstinate constipation; (4) marasmus; (5) the presence of a tumor in the region of the pylorus; (6) the absence of abdominal distention except from dilatation of the stomach itself in some instances; and (7) the absence of signs or symptoms of gastritis, and of the more common forms of intestinal obstruction. The influence of inherited disease, family predisposition, and sex were apparently unimportant. Pathologic specimens were shown. In each case the pylorus was about the size of the last phalanx of the little finger. The hypertrophy of the muscular layer threw the mucous membrane into longitudinal folds. In two cases a tumor had been made out during life. If this can be done surgery may be tried, otherwise palliative measures are indicated. It was suggested that the thickening was of a redundant character, Nature, in her attempt to provide a sphincter, rather overdoing the matter. Thompson suggested that it was due to spasm set up by swallowed amniotic fluid, but there was no evidence that spasm of the pylorus can produce hypertrophy.

At the Harveian Society, November 3d, BATTLE read the notes of "Three Cases of Malignant Disease of the Large Bowel," in each of which he had operated for obstruction, with perfect success. In one patient, a man aged forty-four years, with more or less obstruction for three years, there was an intussusception palpable in the rectum, near the apex of which the growth was found to be situated. In this patient, and in a woman aged twenty-nine years, suffering from a growth in the descending colon, colostomy was performed, and the tumor was removed some weeks later. In the third patient, a woman aged forty-five years, the tumor of the sigmoid flexure was removed at the first operation, the

ends of the bowel were brought out in the wound and stitched, and the septum between them was gradually cut away during the following days by means of clamp forceps. The advantages of "short-circuiting" and lateral anastomosis were pointed out, and the speaker said that colotomy ought to become a rare operation if patients are brought in during the early stage of the disease.

PHILLIPS said that typhoid fever has essentially changed its type during the last 'forty' years. Formerly diarrhea occurred in ninety-six per cent. of the cases, but now it is found in only fifty per cent. The lessened severity of abdominal symptoms coincides with the lessened severity of the intestinal lesions, and now it is not uncommon not to find ulceration even at autopsy. Fifty per cent. or more of the deaths at present are due to toxemia, pyrexia, heart-failure, or asthenia. It is necessary to keep up failing cardiac power by tonics, food, and diffusible stimulants. Diarrhea should be controlled by enemas rather than by drugs given by the mouth. Hamamelis is often serviceable in stopping hemorrhage. If perforation occurs immediate surgical assistance should be summoned.

BROADBENT advocated the wider application of the cold bath, as its use on the Continent and in America has undoubtedly done much to diminish the percentage of fatal cases.

At the Bradford Medico-Chirurgical Society, October 25th, KERR showed two patients, mother and son, suffering from a disseminated lesion of the central nervous system, probably toxic in origin, and following attacks of influenza. In each case there was delayed convalescence, followed by failure of sight and power of walking. There was incoordination of muscular movements and difficulty in micturition. The knee-jerks were exaggerated. The patients remained bright mentally, but were inclined to be too emotional. They had suffered from influenza at the same time, seven years ago.

At the Medical Society of London, November 14th, MACKENZIE showed a case of vascular murmur of obscure origin audible at the base of the right lung. The man had been under treatment for four years for tuberculosis, with slight hemoptyses. There was diminished resonance, bronchial breathing, pectoriloquy, and crepitant râles at the apex on the right side. Otherwise the lungs were apparently normal. At the base of the right lung was heard a loud blowing murmur, occupying nearly the whole of the cardiac cycle. The murmur resembled in character that sometimes heard over an aneurism when an artery and vein communicate. The position of maximum intensity was situated over the seventh, eighth, and ninth ribs in the posterior axillary line. The murmur was not much affected by respiration. From its situation it was unlikely that it was due to an aneurism. Perhaps it was caused by an angiomatous growth in the lung or in the liver.

CALEY suggested that it might be caused by a constriction of the vena cava where it passed through the diaphragm.

BATTLE showed a man who had had tumors in the neck, anteriorly and posteriorly, over the sternum and in both axillæ. Microscopic examination had been made, and the clinical diagnosis of sarcoma confirmed. The patient had taken iodid up to 25 grains three times a day without any good result. He was then treated with Coley's fluid, in half minim and minim doses, for a period of three months, and the tumors entirely disappeared. They were of the spindle-celled variety of sarcoma.

OWEN said the diagnosis of sarcoma did not appear to be certain, and he thought the examination of specimens removed from the living subject are apt to mislead. If it were a sarcoma, why were the glands in the axilla enlarged? It would be very unlikely that a sarcoma of the breast or in its neighborhood would infect the axillary glands. He suggested that it might be a case of granuloma of syphilitic or tuberculous origin.

MOULLIN said that he had examined the tumors and the microscopic sections, and could not conceive that the growth could be anything but sarcoma. He had seen two abdominal tumors disappear under this method of treatment, and while he believed them to be sarcomata, he could not state so absolutely, as no microscopic examination had been made.

OWEN expressed himself as sceptical regarding the diagnosis of sarcoma in such cases. He had seen one subject treated by Coley's fluid for malignant disease of the end of the femur. Later the patient passed into another hospital, and excision of the hip was performed, and the trouble turned out to be tubercular. If this patient had recovered the case would have been set down as a cure by Coley's fluid.

WATERHOUSE had seen the remedy applied in five cases of inoperable sarcoma. Three of the patients suffered from rigors after its administration, and two of them died with hyperpyrexia after moderate doses. In no one of these five cases was there any apparent benefit. Another man had what was considered to be sarcoma of the lower end of the femur. Sections of the tumor were taken and examined in both England and Germany. The pathologists agreed that the growth was a round-celled sarcoma. Some months later suppuration occurred and a piece of necrosed bone came away. The patient recovered without the use of Coley's fluid.

At the Pathological Society, November 15th, LATHAM showed specimens of multiple dermoids found in the abdomen of a woman who had died from peritonitis, set up by the perforation of a dermoid of the ovary. There was one large one attached to the stomach, and many small ones in connection with the stomach, descending colon, and suprarenals. Such a multiple occurrence of dermoids is very rare, and has been attributed by some to malignancy. The speaker, however, inclined to a theory of transplantation.

At a meeting of the Clinical Society, November 11th, MARSH read a paper on "Primary Sarcoma of the Synovial Membrane of the Knee-joint." In September, 1892, he removed from the synovial membrane of the left knee of a man aged twenty-one years, a growth the size of a small tangerine orange. Microscopically it was a mixed spindle- and round-celled sarcoma. The tumor had been in existence for fourteen months. During the next five years recurrences were four times removed. In each in-

stance the disease was confined to the synovial membrane. In December, 1897, a recurrence presented itself posteriorly, and as the knee-joint was pretty nearly useless, amputation was performed. This recurrence, like the others, was confined to the synovial and subsynovial tissues. The disease had not reappeared up to the time of the report.

PITT reported a case of hyperpyrexia in a neurotic woman with bronchiectasis. The patient, twenty-six years old, had suffered four years from attacks of hemoptysis and abundant expectoration of a non-tubercular type. There was marked bronchiectasis and periods of dyspnea lasting for two or three days were of frequent occurrence. In these attacks her temperature in the left axilla was two to four degrees higher than that in the right. At times her temperature on the left side was 114° F., or even higher. The rectal temperature was not extreme. The dyspnea was so great that her temperature could not be taken in the mouth. Prostration was extreme and the pulse was frequently as high as 140. From time to time the patient broke out in a profuse general perspiration. The urine was scanty during an attack, but it never contained any albumin. No explanation was offered for the unusual temperatures, but there could be no doubt that they were genuine, as they were taken every four hours during a period of many weeks, by several different persons, using different thermometers. The patient was so prostrated that she took no notice of the temperature record and any supposition that she raised the mercury by friction on the thermometer would have been ridiculous. In *Guy's Hospital Reports* for 1893 Bryant published extracts of 100 cases of hyperpyrexia. Physiologists have been unable to give the cause of such high temperatures, in one instance up to 128° F.; but there is no reasonable doubt of their occurrence.

LANE showed two patients, a man and a young child, in whom he had successfully made use of the femur of a rabbit to make good the deformity caused by the absence (congenital in the child's case) of the greater part of the ulna. In each case the deformity was remedied and function was restored, the bone taking the place of the normal bone, as was shown by the radiographs. The femurs were fastened in position by fine wires.

At the Pathological Society of Manchester, November 9th, STODDART gave the result of an autopsy upon an alcoholic dement who had died from peritonitis. There was a growth extending along the mesenteric border of the stomach, small and large intestines clear to the anus. It was limited to the alimentary canal. Microscopically it was a spheroidal-celled carcinoma. The anomalous distribution of the growth could be explained in two ways: The first was that the cancer began in the stomach, the rest of the intestinal tract being infected through the food-stream, the infected particles becoming arrested at the junction of the intestinal and mesenteric lymphatics; the second was that the whole growth arose on account of a rod of sub-notochordal mesoblast with dormant hypoblastic characters, assuming those characters in advanced life and giving rise to the epithelial growth.

RAMSAY read a paper on "Pure Anesthetics" at the Society of Anesthetists, November 17th. If chloroform is given in the presence of ligated gas or lamps an unpleasant pungent odor is produced, which attacks the nose, throat and eyes. It is carbonyl-chlorid and results from combustion of chloroform vapor. At ordinary temperatures it condenses to a colorless liquid, and in the presence of moisture it decomposes into carbonic acid and hydrochloric acid. The best test for this impurity is to breath a little of the chloroform, when if carbonyl-chlorid is present, it will irritate the throat. It can be removed by shaking the chloroform with slaked lime and filtering. It has been proved by statistics that the after effects of a chemically pure chloroform are not as marked as those following the use of a less-pure article. Ether, which has been exposed to light and air sometimes has a sticky residue, probably the peroxid of ether. It can best be purified by shaking it with metallic mercury.

SOCIETY PROCEEDINGS.

THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Proceedings of the Eleventh Annual Meeting, Held at Memphis, Tennessee, December 6, 7, and 8, 1898.

(Continued from page 813.)

DR. LEWIS S. MCMURTRY of Louisville, Ky., read a paper on

THE TREATMENT OF CANCER OF THE UTERUS.

He said that the treatment of uterine cancer has not shared proportionately in the great advance of modern pelvic surgery. While other diseases which were long the opprobria of medical and surgical science and art have been made amenable to surgical treatment, the treatment of cancer of the uterus is practically where it was twenty years ago. Cancer of the corpus uteri is rare in comparison with cancer of the cervix, but not so uncommon as was formerly supposed. Cancer of the cervix originates (1) in the squamous epithelium of the vaginal portion of the cervix; (2) in the cylindrical epithelium of the cervical mucosa, and (3) in the epithelial lining of the cervical glands. Cancer of the body of the uterus originates in the epithelial structures of the endometrium.

The essayist referred to the statistics of vaginal hysterectomy as given by Pozzi in the third edition of his treatise on gynecology, an analysis of which does not strengthen or inspire confidence in the ultimate results of this procedure. He said that claims are being made for the permanent cure of uterine cancer by hysterectomy which cannot be realized. Of all patients having uterine cancer who apply for treatment, only a small proportion are within the scope of a clean extirpation by vaginal hysterectomy. The large number of subjects in whom the disease recurs at the site of operation within a few weeks demonstrates that the operation is in most cases simply a resection. His personal experience with this operation has been discouraging. Vaginal hysterectomy for cancer has never been a favored operation with him. During

the past year he has performed the operation in five cases which were selected as most favorable for permanent cure. In all the patients the disease was discovered early, and, so far as macroscopic evidence could show, it was limited to the uterus itself. The organ was normally mobile. Of these five patients treated by vaginal hysterectomy, two had recurrence—one in the bladder, the other in the vaginal fornix at the cicatrix—within five months from the operation. The patients were under fifty years of age and well nourished. The operation was done with a view of going far beyond the region of probable infiltration, and removing the appendages with the uterus. Based on his own previous experience, and that of other operators, it is doubtful if one of the three remaining patients will be living at the end of three years from the time of operation.

In conclusion, the speaker considered in detail the choice of operation for the several classes of cases of carcinoma of the uterus which are presented to the surgeon for treatment. For advanced cases, when the entire field of evident invasion cannot be removed, he advocated thorough curettage, scraping away necrosed tissues, emptying obstructed pus accumulations, washing out débris, and establishing drainage and antisepsis. Such local treatment will reduce septic intoxication, prolong life, and promote comfort. All operations for radical cure should be limited to cases in which the disease is recognized sufficiently early for thorough removal of invaded structures. This will be best accomplished in the majority of cases by abdominal section and removal of the uterus from above, including liberal portions of adjacent structures, especially the upper portion of the vagina, where implication from the cervix is so often found. While liberal excision of suspicious areas of tissue should be carried out it will rarely be found necessary to remove the subperitoneal lymphatic glands, since their enlargement has been often found to be inflammatory in character instead of cancerous. The field of vaginal hysterectomy should be limited to the few cases of early diagnosis in which operation can be performed before deep extension of the disease.

DR. WILLIAM L. RODMAN asked the members to give their experience relative to the frequency of cancer in the black and white races. He was rather surprised to hear of the infrequency of the disease in the negro women. According to the last census-statistics of Billings, cancer of the uterus is more common at all ages in the black than in the white race. This is also the experience of Matas, who has examined the records at the Charity Hospital at New Orleans. An examination of all deaths recorded by the Health Department of Louisville for the past thirty years corroborated the same view.

DR. ERNEST S. LEWIS of New Orleans stated that while he had not observed a very marked difference in the relative immunity of negro women to cancer of the uterus, still if his experience is not at fault, he thinks, owing to their uncleanliness, their mode of living, and to the more frequent accidents to which they are subject during labor, they are particularly prone to cancer of the uterus. With regard to the results of all operations for cancer of the uterus, he endorsed everything Dr. McMurtry had said.

DR. VIRGIL O. HARDON of Atlanta said that during his seven-years' connection with the Grady Hospital he had reason to believe that cancer of the uterus was more frequent in negro women than in white women.

DR. HOWARD A. KELLY of Baltimore remarked that he was astounded at the trend the discussion had taken because he had seen dozens of patients with cancer of the uterus who had remained well for a number of years after having undergone removal of the uterus either by the vagina or by the abdomen. He finds carcinoma of the uterus as frequently in negroes as in white women.

DR. J. WESLEY BOVEE of Washington, D. C., said that his experience in the radical treatment of cancer of the uterus has been more satisfactory than that of Dr. McMurtry. He knows of a good many patients upon whom he has operated who have gone on for three years or more without a recurrence of the disease. He has performed three operations, after the manner described by Werder in the *American Journal of Obstetrics* of last winter, and is much pleased. In each case he adopted the abdominal rather than the vaginal route, believing a more radical operation could be performed by this method. He has great hopes for the future treatment of cancer of the uterus by complete abdominal hysterectomy, undertaken early.

He then read a paper, entitled

THE USE AND ABUSE OF NORMAL SALT SOLUTION.

The term normal salt solution has been used interchangeably with artificial serum. Various compositions and strengths of the constituent elements of the blood have been used under the name of normal salt solution. According to Kirke's "Hand-Book of Physiology," salt exists in the blood plasma in the proportion of 5.546 parts per 1000, and 6 per cent. is a good practical formula. Other ingredients, *i.e.*, egg-albumen, have been added to the salt which really makes an artificial serum instead of normal salt solution.

Of the five different routes through which it is introduced, the intra-arterial, suggested by Dawbarn, is considered unsafe in all conditions and should *not* be practised. The subcutaneous is the most useful for general use. In emergency work the intravenous method will often be needed in severe hemorrhage and rectal enemata of the solution will be found of great advantage in nearly all cases in which no bowel lesion is to be combatted. In abdominal surgery the peritoneal cavity will be selected for its introduction, and even in vaginal opening of the peritoneal cavity, as in hysterectomy, he has thrown considerable quantities into the peritoneal cavity, the hips being elevated at the time and the peritoneal opening closed directly afterward. The intravenous route, usually the most rapid, may be rendered slower than the subcutaneous by difficulty of finding a vein and successfully introducing the cannula.

The physiologic action of normal salt solution is that of powerful stimulant to the cardiac ganglia and the nerve-centers. The skin, kidney, and intestinal functions are

stimulated markedly and other organs are likewise affected. Osmosis is markedly promoted by it and as a result of increased arterial tension the blood supply to the heart muscle is much increased. It has a hemostatic effect when supplied locally to raw surfaces, lessening oozing by stimulating and contracting the smaller vessels. According to Hayem and others it augments the number of red blood-corpuscles. It is eliminated by the skin, changing the chemical reaction of the perspiration and heavily loading it with salt. The kidneys also carry away an enormous amount of it when large quantities of it have been introduced into the tissues. The lungs remove it freely, it having been noticed in crystals on the lips after its free use. Autopsies after its use under the skin have shown a considerable quantity of it in the intestines, demonstrating that it is thrown off by this route.

In surgery the principal indications for its use are shock, hemorrhage, and sepsis. In shock it should be employed early, on the table during operations, or even before the operation has been undertaken in bad cases, or after operation in milder ones. Severe hemorrhage is to be treated in the same manner, though only after the flow of blood has been checked. If the hemorrhage be severe, the intravenous route may be employed, it being about the only indication for this method. In the author's abdominal work he almost invariably leaves a considerable quantity of salt solution in the peritoneal cavity. Its salutary effect is produced by its action on the abdominal viscera with which it comes in close contact. To prevent adhesions in the pelvis one or two liters suffices. It hastens absorption of stray or concealed blood-clots, septic foci, or escaped fluids by carrying them well up into the abdominal cavity in cases of pelvic surgery. In hemorrhage it is probably best to infuse small quantities and often rather than in one large amount.

Judging from the reports of experimenters the use of normal salt solution is not a harmless procedure. It is contraindicated in such conditions of the blood as hemophilia, dyscrasias, deficient fibrin, etc. It would seem not unreasonable that such a strong stimulant, coupled with its dilatation of the blood-vessels, when used in large quantities, and especially when thrown directly into them, would be very harmful in such conditions of the circulatory apparatus as myocarditis, pericardial effusion, atheroma, arteriosclerosis, cardiac degeneration, bad valvular lesions, thrombosis, and recent cerebral apoplexies. Chronic diseases of the lungs, kidneys, or liver, especially if malignant, are apt to be aggravated by it. Active hemorrhage in any location is aggravated by it. The presence of toxins in the blood has been found to retard the elimination of normal salt solution, and for that reason small quantities at a time only should be employed.

It is necessary to avoid certain accidents and mistakes in using normal salt solution. One must know the solution is sterile when it enters the tissues of the body, except by the rectum, in which case it is of no moment. Avoid air bubbles entering into blood-vessels or cellular tissue. The fluid must be of a sufficiently high temperature when it reaches the body. Chills occur from a cold solution and are dangerous to very weak patients. The vessel containing the solution as well as the tube and needle conducting it must be aseptic and thoroughly pervious; the tube should have a glass window that the rapidity of the current and the presence of any foreign body may be noted. When the solution is to be introduced through the skin, either into cellular tissue or a vein, the local surface should be cleaned as much as the limited time will permit. Probably not more than a half liter should be injected into the tissue through one puncture, as localized necrosis and a septic inflammation have resulted from overdistention of the tissue spaces. Ordinarily not more than one ounce per minute should be injected into tissue or vein. Pulmonary edema, dyspnea, headache, vertigo, mental excitement, delirium, hallucinations, severe pain in the left side occur from overdistention of veins from a too large infusion.

THE CONSERVATIVE TREATMENT OF THE DISEASED OVARY

was the title of a paper by Dr. Joseph Taber Johnson of Washington, D. C.

In the early part of the present decade quite a conservative wavelet swept over the country, and considerable harm was done to pelvic and abdominal surgery in the mild and gentle name of conservatism. Incomplete conservative operations were performed, some of which had to be completed later on by radical operations. Some of the men who claimed to be the most conservative, and attracted the timid doctors and frightened patients, were actually removing more ovaries and tubes than many of their so-called radical friends.

So much has been learned by accumulating experiences, as the domain of the gynecologist has undergone so much expansion, that real conservatism is gradually gaining ground over real radicalism to such an extent that he who presents ovaries and tubes or a fibroid uterus to a modern up-to-date medical society, has to state very good reasons why he sacrificed these important organs in their entirety to escape criticism and possibly censure. Sacrificial surgery is gradually giving way to more conservative and humane methods. He believes there is a maxim in general surgery in favor of saving every inch of the human body possible, and another that it requires a higher order of skill to save a mutilated or diseased member than it does to cut it off or to cut it out. With his present experience in abdominal surgery, he is free to confess that he can now save ovaries and tubes which he formerly thought it necessary to totally remove. The increasing skill of our abdominal surgeons and their accumulating experience in actual conservative work go to show that we are approaching nearer to that true conservatism which is the offspring of increased skill and experience. In abdominal surgery it requires a higher order of skill and a greater experience to save an organ or part of an organ than it does to remove it

The president's address was delivered by Dr. Richard Douglas of Nashville, Tenn. He made a departure from the usual or stereotyped addresses, and selected for his subject

ACUTE GENERAL PERITONITIS.

Before considering his subject proper, he spoke of the growth of the Association and the excellence of its scientific work, saying that the Association owes its existence and high standing to the indefatigable efforts of DR. W. E. B. DAVIS, the permanent secretary.

A bacteriologic classification of peritonitis is beset with many difficulties, and while the speaker was free to admit that for all practical purposes peritonitis is of bacterial origin, yet there occurs a respectable percentage of cases in which the most rigid examination fails to disclose the presence of micro-organisms. Hartmann and Moreau reported in detail such a case recently. Of 110 cases bacteriologically classified by Flexner there were 12 cases which he was obliged to consign to the idiopathic group. It is true that in all of these patients there existed conditions predisposing to peritonitis, such as cardiac, renal, or hepatic disease. In the intensely septic mycotic form of peritonitis the absence of bacteria may be accounted for by the fulminant type of the disease, death occurring from intoxication before the colonies are well established. Any effort to individualize the effect of a specific bacterium, to connect its presence with a definite pathologic phenomenon and characteristic symptomatology is as yet futile. Mikulicz avers that all forms of peritonitis run the same clinical course regardless of the bacteria that cause it. There is a law laid down by Maloz to the effect that if the peritonitis is of intestinal origin, the colon bacillus will show it; if it is of uterine origin, that is, connected with abortions or labor, the streptococcus is found. It is asserted that the colon bacillus constitutes nine-tenths of the bacteria of the digestive tract, the colon is its natural habitat, but its behavior upon gaining entrance to the peritoneal cavity depends upon many circumstances, and this bacillus has many morphologic conditions, many forms and stages. The constancy of its presence in peritonitis, since the demonstrations of Welch and others of its capacity of transmigration through the bowel, has led many to attach to it great significance as an etiologic factor, but its association with other forms of micro-organisms renders the first proposition of Maloz null and void. If we interpret Maloz's law correctly, the absence of streptococci would eliminate the possibility of peritonitis being of puerperal origin. In rebuttal of this idea, Dr. Douglas quoted from Winckel, who says: "Kroenig examined all parts of the uterus of a woman dead from infection, and found not only the superficial thrombi at the placental site thickly filled with bacteria, but also the serous lining of the peritoneum." This case shows that a woman may have a peritonitis following abortion without streptococci, and it further shows that the colon bacillus without an intestinal lesion may produce a fatal peritonitis. No doubt too much importance has been ascribed to the colon bacillus, and it is interesting to note that Tavel, who was among the first to emphasize the pathogenic powers of the bacillus coli communis, thinks now the bacillus of minor importance in the etiology of peritonitis. He holds, further, that the very name of the bacillus coli should be considered merely a collective name of many varieties of bacteria.

The conclusions that may be drawn from an etiologic study of peritonitis may be thus summarized: Traumatic peritonitis, especially the post-operative variety, is essentially a grave condition, not only because there is immediate or primary inoculation of the peritoneum, but because the conditions are all favorable for germ-culture and dissemination. Peritonitis by continuity may become general and prove rapidly fatal, but this is not the rule except in puerperal cases. Contrary to the expressed opinion of more than one writer, there is nothing peculiar about the peritoneum, of the cecum, or appendix, or the true pelvis, which accounts for the more frequent localization of inflammation in these regions than in other areas of the abdomen. The method of invasion, the activity of the process and resistance of the patient alone determine the local or general type of peritonitis. Visceral perforation, whether traumatic or pathologic, is an ideal condition for germ culture and the elaboration of toxins. Their rapid absorption and general diffusion throughout the peritoneum sufficiently explain the grave state into which the patient is precipitated. It may be asserted that the clinical course and pathologic expression depend largely upon the nature of the exciting cause, the character of the preexisting disease or injury, and the mode of invasion.

WHEN SHOULD WE OPERATE FOR APPENDICITIS?

DR. A. M. CARTLEDGE of Louisville read a paper on this subject. He drew the following conclusions: (1) Probably ninety-eight per cent. of the patients who die of acute appendicitis without operation have the fulminating variety of the disease. Operation to be of service must be performed during the first twenty-four hours, better the first twelve. (2) In view of the fact that we have no means of knowing the probable course of a given attack of appendicitis, operation, when possible, should be performed within the first twenty-four hours after the onset of symptoms. (3) Patients seen after the third day should not be operated upon until over the attack, or until purulent formations, if such take place, have been walled off, and the patient practically rid of general sepsis. An exception to this rule is the rupture of an appendiceal abscess into the peritoneal cavity, a very rare accident, when abdominal section should immediately be performed. (4) Probably as many patients recover from general septic peritonitis by the use of stimulants and purgatives as do by operations. In either event, if it is a case of true general septic peritonitis, the mortality will not be far from ninety-five per cent. If the patient is operated upon at all, no attempt at general cleaning of the cavity should be practised. The surgeon should quickly assist Nature to take care of the patient by removing the foci. To do more is to add the shock of an unbearable operation to an already nearly exhausted vitality. (5) Subject to interval operation, patients who have suffered unmistakable attacks of the disease. (6) Do not operate too soon after a severe attack with many adhesions; the operation will be greatly simplified by waiting a few weeks longer. In the meantime, keep the patient upon light diet and little exercise. Patients do

not usually have a recurrence until the adhesions or splints have been removed by absorption. The mortality from interval operations should not be more than one per cent.

DR. GEORGE H. NOBLE of Atlanta, read a paper on

URETERAL ANASTOMOSIS.

He gave an analysis of thirty cases collected from literature, and divided them into two classes: First, ureteral anastomosis, or union of the ureter end to end or end to side; second, ureteral implantation into the bladder. On July 2, 1898, the essayist ligated the ureter with the ovarian vessels and Fallopian tubes in a case of large extraperitoneal fibroma. This was the very first ligature applied in doing hysterectomy. The bladder end was split about three-eighths of an inch, and as much of the mucous membrane as could be drawn out was cut away; then the upper or kidney end of the ureter was invaginated into it, a mattress suture being used for the purpose. The split was then closed with fine sutures, making a snugly fitting cuff around the opposing end with no mucosa intervening. Small silk was used to stitch the raw edge of the inferior segment around and to the sides of the upper section. A peritoneal cuff was thrown around the joint thus made and the ureter buried behind the peritoneum. The entire work was conducted with the aid of a ureteral catheter, which had been introduced through the ureter into the bladder and drawn out of the urethra with a pair of forceps. The upper end was passed into the kidney end of the ureter. This served a useful purpose, the entire manipulation being greatly facilitated and preventing obstruction of the ureter by crowding down the cut end of the mucosa just below the line of union. This patient had suffered from absorption of pus for a number of weeks from double pyosalpinx, was emaciated and thoroughly septic. Her temperature just before going upon the operating-table was 103° F., and had been running equally as high during the time she had been in the hospital and perhaps longer. Her pulse was 130 per minute, weak and thready. Thus this anastomosis was done under unfavorable conditions, but successfully.

In October, 1898, he did a successful resection of the left ureter in a case of extraperitoneal extension of sarcoma of the ovary. About one and one-half inches of the duct was removed and the ends united as above. The peritoneum was stripped from the entire left half of the pelvis. The bladder was separated from the upper portion of the vagina, and also from the horizontal ramus of the pubic bone, and drawn up to the left side to the ileopectineal line to cover or bury the ureter, and fastened with a silken suture. In this instance the ureteral catheter was introduced on a stilette and being stiffened by it passed directly out of the urethra from the ureter; thus the use of forceps was unnecessary to fish it out of the bladder. Abdominal and vaginal gauze-drains were used. There was no leakage.

There are several features necessary to success in performing ureteral anastomosis aside from thorough asepsis: (1) Perfect coaptation or invagination. This must be done in such a way that no mucous membrane can slip between the two ends of the ureter. (2) The ureteral artery should be preserved in its continuity to the ends of the ureter. If this vessel be destroyed when the ureter has been dissected loose from its attachments, it will perish beyond the point where it ceases to receive its blood supply. The ends of the ureter should be cut back to the point where the artery is intact lest under diminished blood supply and tension it should perish. (3) All strain or tension must be relieved. Should union occur by first intention, the parts will separate as soon as the sutures cut out or are released. (4) There must be no obstruction to the flow of urine.

CARCINOMA OF THE BREAST.

DR. WILLIS F. WESTMORELAND of Atlanta read a paper on this subject, in which he said that carcinoma now presents even a more serious problem than formerly on account of its rapid increase. The proportionate mortality from cancer is four and a half times greater now than half a century ago. No other disease can show anything like such an immense increase. According to statistics, two out of every five cases of carcinoma in the female are of the breast. More than three-fourths of all the tumors occurring in the breast are carcinoma, or, to be exact, of 637 tumors more than 503, or 83.20 per cent., were carcinoma, leaving only 107, or 16.79 per cent. to represent all other forms of neoplasms. The essayist follows the Halsted method in operating for carcinoma of the breast. He believes, however, Dr. Joseph Bloodgood was the first to demonstrate the advantages of completely cleaning out the postero-internal subscapular region by the supraclavicular route. The results of the Halsted operation, in the opinion of the essayist, depend upon the ability of the individual operator, the earliness in seeing the case, and his closeness in following Halsted's technic.

DR. I. S. STONE of Washington, D. C., contributed a paper on

THE RARITY OF OVARIAN CYSTS IN NEGRESSES.

After several years' experience in a hospital for women, where a large number of negresses are annually treated for gynecologic diseases, and where cases of uterine myomata are frequent, the writer has noticed the extreme rarity of ovarian neoplasms, and especially of the multilocular variety in this race. He addressed letters to all the members of the Association and to several other prominent surgeons elsewhere, and of the large number who replied to his inquiry there was almost universal acquiescence in the position taken from him, save by one important medical center, the city of New Orleans. According to the records from the hospitals of that city, cysts of the ovary of all classes are rather more frequent in the negro than in the white. Leaving aside this one source, the author advanced overwhelming testimony favoring the view that ovarian tumors are exceedingly rare in the negro race. He made a careful distinction between multilocular and unilocular cysts, because there can be no doubt about a diagnosis at the time of operation when a multilocular cyst is found. It is otherwise

with parovarian cysts, or those of the broad ligament, etc., which are perhaps classified as ovarian, and their removal called ovariotomy in hospital reports, or operation-lists, when, strictly speaking, they are not ovarian tumors. He has frequently operated for dermoid, papillomatous, parovian, and broad-ligament cysts in negresses (although most of these in mixed cases), but has not seen a multilocular ovarian cyst.

DR. F. W. PARHAM of New Orleans read a paper on

RESECTION OF THE THORACIC WALL FOR TUMORS GROWING FROM THE THORACIC SKELETON.

He reported two such operations of his own with successful results. Both operations widely opened the pleural cavity and the lung collapsed in both. In the first the collapse was relieved only when the great pectoral muscle was brought down and sutured to the rent in the pleura. In the other signal service was rendered by the Fell–O'Dwyer apparatus for maintaining regular respiration. He believes the perfection of this apparatus and its application in skilful hands will greatly aid in the developing of the surgery of the chest. He had collected reports of all cases operated on up to date with a mortality of twenty-five per cent. for the intrapleural operations for tumors of the chest wall.

DR. W. L. ROBINSON of Danville, Va., presented a

CLINICAL REPORT OF THE USE OF ANTISTREPTOCOCCIC SERUM IN SEVEN CASES OF PUERPERAL SEPTICEMIA, FOUR OF POST-OPERATIVE SEPSIS, THREE OF SEPTIC CELLULITIS, AND TWO OF ERYSIPELAS.

The use of antistreptococcic serum in puerperal fever comprises seven cases treated by him, the patients having high fever, rapid, weak pulse, characteristic breath, chilliness, nausea, insomnia, and pelvic tenderness, with scanty, fetid lochia. From 12 to 20 c.c. of the serum was injected after the usual treatment had failed, including irrigations, intra-uterine and vaginal, sealing abrasions of the cervix and perineum, saline injections, purgatives, stimulants, etc., with prompt improvement in the general condition, rapid fall of temperature, lowering of pulse-rate, and complete recovery. The effect was manifest in from eight to sixteen hours in the majority of cases. In the three post-operative cases of sepsis, seemingly hopeless, all the usual treatment failing, the serum in twelve hours transformed every symptom of high fever, chilliness, rapid, weak pulse, diarrhea, etc., into a hopeful condition, resulting in rapid recovery. Pain subsided in twelve hours, fever in eight hours, diarrhea in forty-eight hours. One case was a vaginal hysterectomy; the second patient was operated on for the removal of pus-tubes, and the third had a vaginal hysterectomy. Two cases of septic cellulitis consisted of suppurative cellulitis of the hand, commencing in a finger, one from injury from a rusty nail, and the other from the spur of a cock. Both had been treated by general alterative tonics and locally by improved antiseptic measures, but the disease progressed daily, involving new tissue till the serum was used, which promptly arrested the progress of the disease in both cases and saved the hands. A third case was a gunshot wound of the ankle, with marked septic prostration, chills, diarrhea, etc., which was dissipated promptly by the use of the serum so far as fever and general septic symptoms were concerned. There were two cases of erysipelas, one in a patient sixteen years of age, due to an abscess following extraction of a tooth, discharging at two points on the neck. Redness and swelling covered one-half of the face, nose, and head. Temperature 104.4° F., pulse 140, delirium, vomiting, chilliness, etc. Ten c. c. of the serum was injected at 9 P.M., resulting in fall of temperature to 100° F. Next morning there was complete arrest of all symptoms, followed by prompt recovery. The second case was one of nephritis. The patient had puffed eyelids and face. Erysipelas of the thigh developed, which became hard, red, and shiny. There was marked delirium. Two injections during twenty-four hours rendered the patient convalescent in thirty-six hours. The serum used was that of Parke, Davis & Co.

DR. J. B. MURFREE of Murfreesboro, Tenn., followed with a paper on

PENETRATING WOUNDS OF THE CHEST.

Penetrating wounds of the chest vary in their extent, character, and severity. They vary from a small perforation with a delicate knife-blade or small bullet, merely separating the tissues without inflicting any serious injury to a fearful laceration with great loss of tissue or serious damage to an organ produced by a large knife or a Minie ball. Wounds penetrating the chest are dangerous from hemorrhage, from the admission of air into the pleural cavity, producing collapse of the lungs, from emphysema, from empyema, from septicemia, and from exhaustion. When a large vessel is injured death quickly ensues from loss of blood; while injury to smaller vessels may endanger life and even prove fatal from continued or frequently repeated hemorrhage.

DR. GEORGE S. Brown of Birmingham, Ala., reported a case of vesicorectal fistula of eight-years' standing, the result of perineal lithotomy, with cure after ten operations.

The following officers were elected for the ensuing year:

President, Dr. Joseph Taber Johnson, Washington, D. C.; vice-presidents, Drs. F. W. Parham, New Orleans, and W. L. Robinson, Danville, Va.; secretary, Dr. W. E. B. Davis, Birmingham, Ala.; treasurer, Dr. A. M. Cartledge, Louisville, Ky. To fill vacancy in the Council—Dr. L. McLane Tiffany, Baltimore, Md. Place of meeting, New Orleans; time, to be determined by the secretary with advice of the Council. After the presentation and adoption of resolutions of thanks, the Association adjourned.

REVIEWS.

A TREATISE ON APHASIA AND OTHER SPEECH DEFECTS. By H. CHARLTON BASTIAN, M.A., M.D., F.R.S. New York: D. Appleton & Company, 1898.

THE literature on aphasia is enormous. Perhaps no other symptom in neurology has received the attention, and has been the object of so much discussion as those

anomalies and perversions of the receptive and expressive functions of the brain involved in language. Dr. Bastian has attempted in the seventeen chapters which comprise this book to present the best established facts relating to these perverted functions of speech.

The book, after a general physiologic and psychologic introduction, takes up the consideration of the existing relations between thought and language. The following chapter is devoted to classification, after which the defects of speech and writing due to structural or functional degradation of motor-centers are considered. The effects of structural and functional disabilities of the various centers concerned in language are then reviewed. This part of the book was outlined in the author's Lumleian Lectures before the College of Physicians of London in 1897. Paraphasia and paragraphia are considered in a chapter, as are the defects due to lesions of the commissures between the different cortical centers involved in the mechanism of language. A very interesting chapter is given to the consideration of the capacity for exercising civil rights. An adequate consideration of the etiology, diagnosis, and prognosis of speech-defects follows, and the work concludes with the discussion of the treatment of these perverted conditions.

To say the least, when one deals with these disturbances he is bound to fall into theory or speculation, or both. There are few works which deal with aphasia which are deprived of these defects, for such they must be called when they appear in a purely scientific treatise. If writers would pay more attention to the clinical and pathologic data than to the purely metaphysical, much of the obscurity with which these "speech" defects are veiled would be removed. Dr. Bastian has brought forward cases where he could to assist in establishing facts which should serve as a basis for speculation. It is needless to say that anything coming from Dr. Bastian's pen is deserving of study and attention, and this work, perhaps, as much so as any of his other contributions to neurologic science.

LABORATORY WORK IN PHYSIOLOGICAL CHEMISTRY. By FREDERICK G. NOVY, Sc.D., M.D. Second edition, revised and enlarged. Ann Arbor: George Wahr, 1898.

THIS work, as its name implies, is a laboratory manual, and although its first edition appeared only a few years ago, nevertheless this second edition is most welcome on account of the enormous advances which the subject of which it treats has made during the interval.

The chapter of principal interest, that on Proteins, contains a classification which differs somewhat from the recent one of Neumeister and that of Chittenden, but the one before us is well subdivided, and its three major divisions are most clearly differentiated. Not sufficient emphasis can be employed to indicate the value of quantitative estimations in the clinical examinations of physiologic secretions, and the chapter which treats of this subject might be of use to many in the active practice of medicine. Gross clinical methods, as they are at present understood by the physician, show us but little of what actually is present in these materials, and it is only by the most carefully performed quantitative analyses that we are enabled to judge the change in the condition of the patient under treatment. The examination of gastric juice, blood, milk, urine, pancreatic secretion, bile, and saliva is fully explained, and the quantitative determinations of the constituents of the first four are given in detail.

A table for the examination of urine, list of reagents and a short index completes the work, which might be recommended to any one working in this special department of chemistry.

ATLAS OF METHODS OF CHEMICAL INVESTIGATION. By Dr. CHRISTFRIED JAKOB, formerly First Assistant in the Medical Clinic at Erlangen. Authorized translation from the German. Edited by AUGUSTUS ESHNER, M.D., Professor of Clinical Medicine in the Philadelphia Polyclinic. Philadelphia: W. B. Saunders, 1898.

THIS work has no merits over its numerous predecessors of like character, save the abundance of well executed illustrations whence it derives its title. A very conventional word picture of the diseases accompanies the illustrations, of which there are 68 full-sized plates. The latter half of the work is devoted to methods of clinical examination. Differential diagnosis, so intensely significant to the medical neophyte in grasping the essential differences in diseases, is much neglected. In attempting still further to condense into this hand-atlas the subjects, urinanalysis, blood examinations, gastric analysis, and clinical bacteriology, the author has erred. The epitomized style adds both to the difficulty of reading and of memorizing.

THERAPEUTIC HINTS.

For Cardiac Weakness after Scarlatina.—

℞ Tinct. ferri chloridi . . . . ʒ i
Ac. phosphorici dil. . . . ʒ ii
Syr. aurantii . . . . . ʒ iv
Vini xerici . . . . q.s. ad. ℥ iii.

M. Sig. One to two teaspoonfuls 3 times a day after meals for a child of 3 to 6 years.—*Freyberger.*

For Dyspepsia with Flatulence.—

℞ Tinct. gentianæ, Tinct. valerianæ, Tinct. nucis vomicæ } aa . ʒ i
Chloroformi . . . . gtt. xx–xl.

M. Sig. Ten to 20 drops in water before meals.

For Rheumatic Gout.—

℞ Sodii salicylatis . . . . ℥ ss
Sodii nitratis, Potassii iodi } aa . . . . ʒ iiss
Oxymel colchici . . . . ℥ iss
Syr. rad. bardanæ . . . . ℥ v.

M. Sig. One tablespoonful in a half glass of water twice a day for forty days.—*Bacelli.*

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXXIII. NEW YORK, SATURDAY, DECEMBER 31, 1898. No. 27.

ORIGINAL ARTICLES.

GOUTY AND RHEUMATIC AFFECTIONS OF THE EAR.

BY SEYMOUR OPPENHEIMER, M.D.,

OF NEW YORK;

ATTENDING LARYNGOLOGIST TO BELLEVUE HOSPITAL, OUT-PATIENT DEPARTMENT; ATTENDING LARYNGOLOGIST TO THE UNIVERSITY MEDICAL COLLEGE DISPENSARY.

THE more or less intimate relationship existing between gout and rheumatism, in this country at least, and the conflicting theories suggestive of the etiology of the two diseases, precludes a separate consideration of each when studied as to the effects produced on the auditory apparatus. For the purpose of describing the local effects of these diseases as especially concerning the otologist, we may in general consider the two as one affection, except in a few instances, which will be discussed in their appropriate place.

We must consider rheumatism as partaking of two forms, the acute and the chronic, the ear being occasionally involved in both varieties. In the acute form the joints are the parts mainly affected; there is hyperemia and swelling of the synovial membrane and the ligamentous tissue, the fluid lubricating the joint becomes turbid, albumin, and fibrin being present in increased amount. In chronic rheumatic affections involving the joints the synovial fluid is diminished in amount, the cartilages are thickened, as is also the capsule surrounding the articular surfaces, the sheaths of the tendons in the immediate vicinity of the involved joint undergo similar alterations, and the movements not only of the joints, but also of the neighboring muscles, are restricted. In addition to this, in the form under consideration, the nerves supplying the parts undergo pathological change, and consequently, from the peripheral neuritis resulting, nutrition and innervation suffer, and atrophy of the affected parts, and especially of the muscles, supervenes. The blood-vessels also become the seat of a slowly developing sclerosis, adding to the changes already observed.

In the study of the morbid anatomy of gout an excess of uric acid is found in the parts directly involved by the disease. This extraneous substance, acting as an irritant, produces a local coagulation necrosis, with inflammation, hyperemia, swelling of the ligamentous tissues, and effusion into the joint.

A study of the histologic structures of the auricle and external auditory canal reveals the presence of a large amount of fibrous tissue and cartilage, the two tissues especially susceptible to the morbific influences of the affections under consideration. The middle ear consists essentially of a cavity with two openings, the Eustachian tube anteriorly and the antrum and attic posteriorly. Enclosed in this central cavity are the ossicles with their minute and complicated system of articulations, the stapes with the fenestrum ovale, the incus with the stapes and malleus, and the malleus with the incus, membrana tympani, and wall of the tympanic cavity. The mucous membrane of the middle ear being closely adherent to the bony walls in part replaces the periosteum, and with its numerous folds divides the cavity into a number of secondary spaces. Concerning the inner ear, the blood-vessels only need be considered, the injurious effects of gout and rheumatism upon this portion of the auditory apparatus depending upon changes in the vessels, and rarely affecting the delicate nerve-filaments of the parts.

Although gouty and rheumatic affections of the auricle were studied many years ago, it was not until 1849 that W. Harvey, in a systematic paper, directed special attention to the morbid changes noted in the auditory apparatus resulting from these affections. He called attention to the fact that both gout and rheumatism affect the ear without any other changes in this organ being present, and also observed that the ear, already the seat of other pathological alterations, is liable to be affected in gouty subjects, thus in a way changing the character of the disease previously existing.

Accurate statistics as to the frequency with which the ear is affected are not easily obtained, the general opinion, however, being that the internal ear and auditory nerve are very rarely affected, the tympanic cavity and membrana tympani more often than is generally supposed, while the external auditory canal and auricle are quite commonly influenced by the general affections. Especially will this relationship be evident if a careful history be obtained in all ear diseases coming under observation. Dench[1] says that gout and rheumatism exert more influence on the ear than is commonly supposed, and that it is not necessary that there be constitutional evidences of the two affections, but the ear may be affected through a hereditary diathesis. The susceptibility of the ear in certain individuals to the

injurious effects of gout and rheumatism is explainable by the large amount of fibrous tissue composing portions of the auditory apparatus, the selective powers of these diseases, as has been seen, being well marked for this form of tissue, entering as it does into the composition of the larger part of the auricle and external canal, and forming to a great extent the important ossicular articulations. Richey,[3] in a paper on this subject, considered that the minute joints of the ossicles are liable to attacks of rheumatic arthritis from their exposure to atmospheric changes. That the rheumatic diathesis manifests itself in acute exacerbations as the result of sudden or prolonged alterations in the humidity of the atmosphere is well known, and no reasons exist when the disease is apparently limited to the joints of the ossicles why it should not show itself here, as it does in other articular surfaces of the body.

From the otologist's point of view we are concerned with gout and rheumatism as being either hereditary or acquired. The acquired form of the disease, as seen in the usual way and due to causes originating in the affected individual, manifests itself in the aural apparatus in various ways, being either clearly defined and then readily recognized, or may simply show itself as alterating the character of some diseased process already present in the ear. The obstinate character of many ear troubles, especially eczema of the external auditory canal, and serous middle-ear catarrh is due in a considerable proportion of cases to the gouty or rheumatic diathesis. Hereditary gout, as observed in this location, may appear a short time after birth or later in life, the first rarely, but during adult life much more commonly. D'Aguanno[3] reported three cases of tardy hereditary gout of the ear in which deafness developed as soon as the patients arrived at the age of puberty. No other causes for the affection were found, and the nose and nasopharynx presented no deviation from the normal. The father had been affected with the gouty diathesis for years, and as the result of D'Aguanno's study of these and similar cases, he concluded that among the ordinary forms of hereditary gout of the ear there is a late variety which usually manifests itself at the age of from fifteen to twenty years.

Aural involvement from both affections occurs most often in advanced life and in males; this is especially so as regards the serous form of otitis, while the chronic sclerotic variety of middle-ear disease dependent upon rheumatic diathesis is not seen at any definite age, but occurs most frequently in the female sex, and is associated with muscular rheumatism. Acute myringitis depending upon the acute form of rheumatism and gout occurs at any time, age and sex apparently bearing no relation to this complication. Destructive processes of the middle and internal ear occur most frequently in males and at an advanced period of life, the patient suffering from the rheumatic or gouty diathesis a number of years before the ear becomes involved. General evidences of rheumatism may not be present, the auditory apparatus being affected primarily, and on the subsidence of the aural inflammation the nature of the disease will be seen by the occurrence of rheumatism of one or more large joints of the body. In gouty patients well-marked evidences of the disease elsewhere are usually found before the ear becomes affected, although the hereditary form may not show itself anywhere but in the ear for a considerable period. In the large proportion of patients suffering from well marked gout liability to occasional subacute dermatoses of the meatus is observed.

Both gouty and rheumatic affections objectively and subjectively differ considerably when various parts of the auditory apparatus are affected. The auricle is very commonly the seat of deposits of nodular urates in gouty subjects; these crystals or amorphous masses are generally situated underneath the skin of the helix, and do little harm; occasionally from pressure inflammation is produced, the cause being recognized by the presence of a foreign body underneath the cutaneous surface. In both gout and rheumatism of long standing the external auditory canal is frequently affected with a localized, subacute form of eczema, mild in character, but very resistant to treatment, and leading to changes in the cutaneous lining. In many cases of eczema in this locality treatment as usually applied is of no avail, and the patient improves only after constitutional measures directed to the primary disease have been instituted. The eczematous patch presents nothing of a diagnostic nature, a history of the case as regards the presence of gout or rheumatism, and the results of treatment alone allowing a proper diagnosis to be made. Resulting from denudation of the cutaneous lining of the canal and the increased moisture present there is a considerable tendency to the development of vegetable parasites on the eczematous area.

Toynbee[4] referred osteomata of the canal to the gouty-rheumatic diathesis, and although exostoses occur in this locality quite frequently in individuals of this class, yet no direct causal relation has been fully established. From the deposit of urates under the skin of the meatus a furuncle forms, while in severe attacks of rheumatism a general condition of furunculosis of both external auditory canals is occasionally seen. The membrana tympani is rarely affected without the middle ear at the same time be-

ing involved, but occasionally during an acute, violent attack of gout transitory pain of the ear will be complained of, lasting for a few hours and rapidly passing away. If the membrana tympani be examined, intense congestion of the manubrial plexus will be seen, the middle ear apparently not being involved, but when it is affected the membrana tympani also participates in the morbid process. Both rheumatism and gout, but especially the former, produce their marked effects on the tissues of the tympanic cavity; these changes are varied, but in general may be divided into two main divisions; first, an acute and destructive process, and, second, a chronic and insidious affection.

Acute rheumatoid otitis occurs during an attack of acute rheumatism; intense pain is complained of in the affected ear, paroxysmal in nature and affecting the entire side of the head, tinnitus, slight at first, increasing in intensity until the patient is almost distracted with the sounds in his head, and when the pain subsides there is a feeling of numbness of the affected ear and of the same side of the head. On examination of the middle ear under good illumination the drum-membrane will be seen to be intensely red and differing from the color usually observed in acute myringitis, being of the shade known as flamingo. If the treatment is successful the affection rapidly subsides, and the ear may speedily become normal, or a moderate amount of deafness may last for a few weeks. Uncontrolled, the affection increases in intensity, pus is developed, and necrosis of the bone may result, the mastoid possibly becoming involved. This violent, acute form of rheumatic inflammation may lead to entire destruction of the ossicles and adjacent bone. Again, the acute form may vary in a most striking manner in different individuals, being in no way affected by the intensity of the disease elsewhere, although should a number of joints be inflamed at the same time the tendency to ear involvement is decidedly increased. In other cases it may manifest itself by redness of the drum-head, moderate degree of deafness, and a feeling of stuffiness in the ears, pain and tinnitus being entirely absent. This condition remains for a few days, the usual treatment being of no avail, and then disappears without apparent cause, only to return when another rheumatic attack is imminent. A third form is characterized by intense pain only, the middle ear on inspection apparently being normal, while the tympanic membrane will give no evidence of the presence of disease of the parts; impairment of hearing, and, in fact, all the symptoms of acute otitis, except the pain, are absent. This may last for an indefinite time, and relief will not be obtained until the rheumatic condition is ascertained and proper general antirheumatic remedies employed, for local treatment seems useless. As a result of these acute processes in the middle ear, marked alterations in the functions of the parts will result, but they differ in no way from those observed after non-rheumatic inflammations, and need not concern us here.

Slowly progressing changes in the tympanic cavity occur both from gout and rheumatism, and are independent of the acute affections just described. These changes usually develop early in an acute exacerbation of long-standing rheumatism, the fibrous tissue being primarily involved and, finally, the nervous tissues participate in the pathological process. There are usually two distinct chronic affections involving the middle ear in which the gouty-rheumatic diathesis exerts a great amount of influence as a causative factor. The most common of these is chronic sclerosis of the drum-cavity, the fibrous tissues being especially involved. Previous to the sclerotic changes becoming characteristic, there is an initial semiacute form of inflammation present. This occurs during an attack of the general disease and continues in the interval. The membrana tympani is neither normal nor red in color, while other symptoms are absent until the ossicular articulations become ankylosed and marked fibroid changes render the functions of the parts less and less acute until deafness becomes almost, if not quite, complete. This form of middle-ear sclerosis differs only in its etiology from that due to other causes, but it should be remembered that, as a result of gout and rheumatism, the latter especially, the brunt of the disease is borne by the joints of the ossicles, and therefore serious damage to the hearing will eventually result.

The other form of otitis in which these general affections exert a distinct influence is that characterized by a watery, serous discharge from the middle ear. Pus is never present, and the affection is not always confined to the middle, but frequently invades the external ear. Sexton[5] says that the serous form of otitis media is found nearly always in rheumatic or gouty subjects. The progress of the disease is slow, months and years passing before cure is complete, and relapses are frequent, depending upon the presence or absence of the constitutional disorder.

The delicate structures of the labyrinth and cochlea apparently do not participate in the morbid process, except when the middle ear and adjoining parts undergo extensive necrosis the result of a severe attack of rheumatism. As an indirect internal ear involvement, however, changes in the vestibule and cochlea are occasionally found resulting from arteriosclerosis of the minute vessels ramifying

through these regions. As the result of long-continued rheumatism in advanced life there is a considerable degree of degeneration of the arterial walls throughout more or less of the entire arterial system, the peripheral vessels supplying special organs, such as the one under consideration, from their small caliber and delicacy, being less resistant to these degenerative processes. In the internal ear these changes are occasionally manifested, the structures composing the arterial walls becoming degenerated and rigid from deposits of lime salts. From the diminished resistance of the diseased vessels to an increased blood-pressure rupture occurs, and the ordinary symptom-complex of labyrinthin hemorrhage is produced. The patient complains of irregular subjective forms of tinnitus with impairment of hearing and vertigo, varying with the amount of destruction in the internal ear. When the vessel-wall ruptures these symptoms appear very rapidly, but may rarely develop in an insidious manner, several months elapsing before becoming well defined, and in this case the blood is not poured out through a rupture of the arterial wall, but escapes by capillary oozing.

Rheumatic paralysis of the auditory nerve has been described by McBride[6] as occurring during the course of acute rheumatism; deafness is marked and bone conduction is diminished or lost, but vertigo does not always occur. The affection is but temporary, and as the general disorder subsides the aural symptoms gradually disappear, a slight impairment of hearing alone remaining.

The diagnosis of these changes in the auditory apparatus is readily made if attention be directed to the etiologic influences of the gouty-rheumatic diathesis in all stubborn cases of the various forms of ear affections. The prognosis will, of course, depend upon the original cause of the ear affection, in general being good in both gout and rheumatism, and depending upon the promptness with which general treatment is instituted. Local treatment, except in acute inflammations, is of little value, general antirheumatic medication alone being of service.

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[4] Toynbee in Burnett's "System of Diseases of Ear," etc.
[5] Sexton, "Diseases of the Ear."
[6] McBride, "Diseases of the Nose, Throat, and Ear."

A New Chemical Substance.—Dr. Becquerel of Paris, on behalf of the discoverers, Curie and Bremona, has announced to the Academy of Sciences, the discovery of a new chemical substance akin to barium. It is sensitive to light and has been named radium.

THE TREATMENT OF HYSTERIA.

By DARWIN R. STOCKLEY, M.D.,
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The term "hysteria" is applied to an unusually varied group of manifestations of functional disturbances of the nervous system. Defective hereditary endowment, unequal and inharmonious development, improper training, and unfavorable environment are among the predisposing factors. Exhibitions of lack of will power, of excessive emotional disturbance, of extreme susceptibility to external impressions, of great fondness for sympathy, and of a surprising simulation of other diseases are among the characteristic symptoms. The potentiality of hysteric symptoms is possessed by every one, and under favoring circumstances will be manifested. It is only in degenerates that hysteria becomes a disease. The frequent close resemblance to other diseases, and the common association of symptoms with those which have an organic basis render the recognition of hysteria a problem of great difficulty.

While the prognosis of hysteric manifestations is not unfavorable, the successful treatment of the disease requires more tact, skill, and patience than any other disease of the nervous system. The physician may first see the patient in a hysteric convulsion accompanied by one or more of the "stigmata." His first duty is to protect the patient from violence. Mechanical measures are usually employed, the mind of the patient controlled by suggestion of the physician, and a tranquil, hypnotic state induced. Apomorphin is a favorite remedy for speedily clearing up a hysteric paroxysm. It is an essential preliminary to dismiss from the presence of the patient all sympathizers and other unnecessary persons.

Treatment of the disease itself cannot begin too early, even *in utero*, and by surrounding the hysteric mother with a tranquil and unemotional environment much can be done before the birth of the child which shall contribute to its better-balanced nervous organization. Before the child of such a mother reaches the age of ten years, for the benefit of both it should be placed beyond her direction and control. In the education of such a child the advice of the physician should be sought and uniformly followed, and every effort made to properly train its will and emotions. Children of hysteric parentage are inclined to precociousness, morbid sentimentalities, mawkish sympathies, and abnormal sexual propensities. The successful treatment of such symptoms is in line with our modern educational methods, by which healthy out-door sports are encouraged, precepts of patriotism instilled, and

generous feelings and hopeful sentiments inculcated. The democracy of the schoolroom and playground puts the mind of the hysteric child into balance, and he acquires self-control in adjusting himself to other and healthy minds. Thus healthy ambitions take the place of abnormal self-indulgence.

No physician can be successful in treating hysteria who does not first win the confidence of his patient. A firmness that is not sternness, a kindliness that stimulates, a sympathy that offers no encouragement to emotional outbursts, an exhibition of control by suggestion are among the attributes of the physician for the successful treatment of this disease. To secure the best results the patient must be removed from home and from all the influences which have produced and which tend to perpetuate the morbid condition of the mind. Equally imperative is the employment of a proper nurse, one who can follow the directions of the physician. The so-called "trained nurse," taught to search for objective symptoms, will, by her methods of precision, furnish the patient's mind with new symptoms, and thus aggravate the disease by suggestions. Aside from suggestions by the physician in the control of an acute attack, there are no permanent results from the treatment of hysteria by suggestion. This is due to the ineffectual control which the patient has over his emotions. The "rest-cure" has value when properly managed in the initial treatment of the severe forms of the disease, but an improvement in general nutrition under any treatment that is unaccompanied by mental gain is not a cure of hysteria.

The possibility of a physical cause for a hysteric attack should be recognized, and the disturbing factor removed. Sedatives and antispasmodics are often indicated, and malnutrition will call for the usual tonics. Hydrotherapy is enjoying not too much distinction for its beneficent effects in treatment. Hypnotism, electricity, extreme shock, and vile drugs can offer no other than a temporary relief through the patient's extreme susceptibility to suggestion. Surgical procedures, especially upon the generative organs, except for the purpose of restoring a pathologic condition, are unscientific, and it is well contended that not a single cure is recorded as the result of removal of healthy sexual organs. The one bright, particular ideal to which all methods for the treatment of hysteria tend, is to secure in the patient a fixed resolve to accomplish some unselfish purpose. The physician and the nurse, ever on the alert for the manifestations of such a purpose, will encourage its development by every means in their power, knowing that an active spirit working outside of introspective and morbidly selfish aims has no room for the development of hysteria.

THE LOCAL MEDICAL SOCIETY; A PLEA FOR ITS BETTER SUPPORT.[1]

BY GEORGE L. RICHARDS, M.D.,
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WHY have a medical society? What is the end in view; the advantage to its members and the profession of medicine? Every community in which there is a number of physicians should have its medical society, and where the number is small the physicians of the district can combine and form a district society. Physicians lead busy lives, and, as a rule, meet socially but seldom; for they never all belong to the same church, the same secret society or organization, the same club, the same political party; hence, the local medical society is about the only place where they can all meet on the common ground of interest in their chosen profession. Here all differences of race, religion, and party are laid aside and forgotten, and all meet as equals and brothers. This association one with another is invaluable. The public, always erratic and constantly changing its doctor or misunderstanding him is liable to say to another doctor something unpleasant from which jealousies and ill feelings may, nay often do, arise. At the medical society meetings many a slight misunderstanding or feeling of jealousy is readily adjusted, and two physicians, each of whom may have felt aggrieved with the other, are after a few moments of personal conversation the best of friends. The same matter discussed by the public would very likely have brought about permanent estrangement.

We have all heard remarks like the following: "Dr. A. played me a mean trick in that case." If asked, "Have you seen Dr. A. about it?" the reply is, "No, we have not met since." Ten to one if the two men are regular attendants at the local medical society meetings one or the other will refer to the incident the next time they meet there, and after a few minutes' conversation each will be satisfied. I firmly believe that most of our differences with one another arise entirely from misunderstandings, frequently helped by our patients, who often misquote medical men. Their reply to the question, "What did the doctor say?" should always be taken with some reservation. This is due to ignorance of medical matters rather than to deliberate intention. Then it is so easy to blame the man who is not there, especially in the presence of another physician. We often hear it said that physicians never agree. While the remark is not strictly true, there is something of truth in it. Under the influence of the medical society there comes more and

[1] Read before the New Bedford Medical Society, October 17, 1898.

more of agreement, since close association is bound to make us know each other better, heal the wounds and make us all mutually helpful. We could not say of a brother member with, it may be, a shrug of the shoulders, "I do not know him," letting our auditor infer what he pleases.

To the man just entering the profession the medical society is of great benefit. He is loth to join it, because he feels overshadowed by Drs B., C., and D., whom he regards with some awe, combined with fear as to what they may say if called to see one of his patients. He joins the society and reads his maiden paper. Soon, it may be, our young doctor has a case which troubles him; he feels that the patient is doing all right, that his diagnosis and treatment are correct, and if only the family does not get unduly alarmed and call in another doctor all will go well. One day he is informed either that they wish Dr. B. to see the patient or he goes only to find that Dr. B. has already seen him and he is discharged. "So young, you know; we could never forgive ourselves if anything serious should happen, etc." Now what results if Dr. B. has met our young doctor, whom we will call Dr. X., in the medical society? What will he say to the mother, when she expresses her fears regarding the age of Dr. X., his inexperience and treatment? "You see, doctor, we only called him in because he was handy and we did not think there was much the matter. We always prefer you if there is anything at all serious." When this is said to Dr. B. he will in all probability answer, "Yes, I know Dr. X.; he is a member of our sociey and read a valuable paper before it the other evening. He is one of our coming young men. I am sure what he has done is all right." Whether the case goes back to Dr. X. or not makes little difference. Dr. B. has helped Dr. X. That family feels kindly toward him. The mother will tell her next-door neighbor how well Dr. B. spoke of Dr. X. and his fame will spread. Those few words of the older doctor have helped him far more than the value of the case he has, it may be, lost, as he will quickly find out. And Dr. B. has done only what he ought to have done; what, if a gentleman, he could not help doing. This is not at all a fanciful circumstance but an actuality. Of all persons in the profession the medical society is most needed by the younger members and recent graduates.

The general standard of the profession is raised by the medical society and members are sometimes kept by it from doing things they might under other circumstances be tempted to do. Each physician should have the honor of every other member of the society at stake. The answer to calumny would be, "That cannot be so; Dr. J. is a member of our society; he would not stoop to such a practice." All good men in the profession should be welcomed as members and made to feel that they are wanted. Carefully look up the character and attainments of members. Require that they be graduates of good schools and likely to be men of honor to the society and the profession. Do not make admittance too easy. Let character and professional attainments be the only qualifications required. Bad conduct should debar from membership and very bad conduct in members should be punished by expulsion.

To many members the paper is a bugbear and the remark will be heard, "I can not write a paper," or diffidence will be expressed as to what the older men will think about it. "Nothing to write about; no opportunities to see interesting cases," and similar excuses are offered. These excuses have no force. There is no physician who cannot write a good acceptable paper, one profitable to his hearers; no doctor who cannot carefully prepare and report a case, the discussion of which will make an interesting meeting. Take the common subjects, those that come up in daily life, and make them attractive, giving always a personal flavor to the paper. At a recent society meeting a member read a paper on acute cystitis based on his personal experiences with the disease as patient as well as physician. The ailment is a common enough one, yet an interesting discussion followed and points of great practical benefit not often found in the text-books were brought out. The youngest graduate can bring something of the latest methods as taught in the schools while the older members can give from the rich storehouse of their experience. Avoid a text-book style. Study the subject thoroughly, and the more work put on it the better, then write the paper in your own language and in your own way, making it your individual paper. Write in advance of the time needed; better work is done and there is no hurry at the end. There is usually no excuse for a hurried or poorly prepared paper, since the assignments are always made a sufficiently long time in advance. "I did not know until yesterday that it was my turn to read" is no excuse. Make the paper as good as you can. You will be pleased if you have an audience worthy of yourself and your subject. Never regret the time spent in preparation whether the audience present is large or small. The preparation has always done the author more good than it has any of his hearers. The chances are that he knows more of the subject about which he has written than he ever did before.

And as you will be disappointed if there are but few present when you read, remember that the same thing will hold true of the other man when he reads,

hence, it is your duty to be present if possible at every meeting. Physicians are busy men, nevertheless, it is my opinion that the great majority of the members of any medical society could be present at every meeting if they chose to make a little effort. Neither distance, engagements, nor any other of the numerous excuses offered would interfere with their coming if they really wanted to come. Frequently the busiest men are the most regular attendants. Granted that every member will occasionally have to be absent it is, nevertheless, true that a medical society meeting at 8.30 P.M. ought to be able to get together the greater portion of its members at each meeting. A good attendance adds to the enthusiasm and helps very much in making the meetings a success. When papers are read a full and free discussion adds to the profit and the interest. The reader would prefer to have his paper freely discussed even if radically disagreed with. Fifteen minutes spent in looking up the subject preparatory to the meeting would make every member familiar with it and a meeting which might otherwise have been dull becomes entertaining to everybody.

Whether a permanent room shall be hired, journals taken, or an attempt at collecting a library be made, will depend on the number and desires of the members. Whatever the dues they should be kept paid up. It is the only fair way and the effect on the society of members in arrears is bad.

It may be objected, "It is not worth the cost." "There is nothing I can learn from those men." To this I would reply that it is well worth the cost for social and companionship reasons alone; it is worth the cost to know each other better; and for scientific reasons it is worth the cost. Economize somewhere if need be, but never stay away from the medical society because of the cost of membership. As I recently heard it expressed, "A physician who can get no good out of the medical society is either way above or way below the average of his fellows." "I can read better papers in the journals." Granted; and yet there is a life and a fire to a paper read by its author which is lacking when the same is read in print. Furthermore, we ought to be ambitious to write as good a paper as any one else.

Competition in medicine becomes keener every year and the struggle for existence harder. The survival of the fittest is bound to come and the laggard will be left behind. The medical society is a means of keeping ourselves in the van, in the fore most ranks of the profession.

Enthusiastically supported by its members, the regularly attended medical society is a post-graduate school always in session and of inestimable value to its members.

CLINICAL MEMORANDUM.

MYOTONIA CONGENITA (THOMSEN'S DISEASE); REPORT OF A TYPICAL CASE.[1]

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THIS interesting and rare affection was first clearly described by a German physician, J. Thomsen, about 1876.[2] Prior to this, cases of what must have been this affection were described by Sir Charles Bell, Benedict, and others, but these descriptions were imperfect and somewhat vague, and it was not until Thomsen's paper appeared that the disease was clearly differentiated from conditions of muscular cramp. In studying the literature of this disease many cases must be rejected if one follows the original description of Thomsen. A large number of the recorded cases, as Jacobi has pointed out,[3] are either cases of organic disease of the nervous system or instances of what this author calls "myotonia acquisita," and have nothing in common with the congenital form of the disease as it was first described. I regret that the following report is not more complete, but the patient was sent to me from another State, and I had no opportunity to study the case as I would like to have done.

Mr. H., aged twenty-one years, consulted me in March, 1898. He looked perfectly healthy, and an examination failed to reveal disease of the thoracic or abdominal viscera. He complained of slight dyspeptic symptoms and some headache. The urine was normal. He had had the usual diseases of childhood. His mother was nervous and subject to neuralgia. She had had some sort of "cramps" just before the birth of the patient, but they did not continue long. Her father died of "paralysis"; her mother had lived to the advanced age of 102 years. The family of the patient's father was exceptionally healthy. As far back as he could remember the patient had had cramps in his muscles whenever he made any sudden movement. His father, who was with him, corroborated this statement, saying that this condition of muscular cramp has been present from the time that he had begun to make voluntary movements. He had never been able to indulge in games with other children, for, upon any sudden exertion, the cramps would come on. If he began to run the cramp would seize the muscles of his leg and he would fall. When he doubled up his fist it was some seconds before he could open his hand. When he grasped my hand he did so with force, but was not able to let go for some seconds. When he wrote he found it difficult to let go of the pen. If he suddenly extended or flexed the leg the muscles contracted strongly, though without pain, and it was only after several seconds that the muscles relaxed. If he closed his eyes tightly he could not open them at once. He said that if he looked fixedly at an object his eyes became "set," and he could not read long at a time. At times his eyes rolled up to such an extent that only the

[1] Read before the Baltimore Neurological Society.
[2] *Arch. für Psych.*, vi, 1876.
[3] *Jour. of Nervous and Mental Diseases*, vol. 25.

whites were visible. The abdominal muscles were also involved.

Examination of his nervous system showed normal strength and no muscular atrophy; on the contrary, the muscles were unusually well developed. There was no disturbance of sensation. The reflexes, superficial, deep, and pupillary were normal. Examination of the eyes showed the discs and retinæ to be normal. The muscular spasm was not brought on by mechanical stimulation of either muscle or nerve. The electric examination could only be made once, and showed the reaction to the faradic current much below normal, while the reaction to the galvanic current was increased, and the anodal closure was distinctly stronger than the cathode closure. I was not able to demonstrate the peculiar slow contraction of the muscles to the faradic current.

The patient thought that his condition was rather worse in wet weather, but he had never had any rheumatic symptoms. His condition had remained practically unchanged, though he thought that during the past few years he perhaps had been a little worse. The various points in the history were corroborated by his father.

It will be noted that these symptoms had been present since birth, and that there were no other members of the family similarly affected. The symptoms described as "cramps" which affected the mother before the birth of the patient should be disregarded, since they did not persist any great length of time, and probably would not have been noticed but for the subsequent development of muscular spasm in her child. The question of heredity is an interesting one; undoubtedly in some cases there is a marked hereditary predisposition to the disease. In Dr. Thomsen's family, for example, all four of his grandfather's children were affected, two markedly, two slightly. Of thirteen children borne by his mother, seven were affected, and four of his five sons were subjects of the disease. Other cases of either direct or indirect hereditary influence might be mentioned. More often the disease seems to show itself in several members of the same family without any distinct heredity. Again, as in the case here recorded, the affection may appear in only one member of a family. Such a comparatively short time has elapsed since the recognition of the affection that it is impossible to speak definitely as to the heredity, since the parents or grandparents of the subjects whose cases have been studied might have had the disease without its having been recognized.

The symptomatology, which is well illustrated in the case reported above, consists in a rigidity, remaining for some seconds after voluntary contraction of the muscles. The arms and legs are most often involved, but almost any of the muscles may participate. In my patient the abdominal muscles were affected, though not to as great an extent as the muscles of the extremities. The muscles of deglutition, micturition, defecation, respiration, or parturition do not seem to be involved in any case of the disease. The muscles may be of normal size, or there may even be an apparent slight hypertrophy present. The contraction is usually much worse after a period of rest; this was very noticeable in the case of my patient. The reflexes are unchanged, and there is no disturbance of sensation. In the pure cases of Thomsen's disease there are no symptoms pointing to an involvement of the nervous system. As has been remarked, when the nervous system is distinctly involved the case is not to be regarded as belonging to the form here described. The faradic aud galvanic excitability is normal or nearly so when the stimulus is applied directly to the motor nerves, but markedly increased when the current is applied directly to the muscles. Erb describes a peculiar undulating contraction following the application of a strong faradic current to the muscles. The same rule holds with regard to mechanical stimuli, namely, normal when applied directly to the motor nerves and somewhat above normal when applied to the muscles.

The etiology of this affection is very obscure; it is certainly a family disease and probably has also a more or less marked hereditary tendency. Males are more often affected than females. The prognosis, judging from the recorded cases, is uniformly bad. No case of recovery has been reported, though there would seem to be no special danger to life. Much interest centers around the pathologic findings, since the point to be decided is whether this is a disease of the nervous or the muscular system. The only autopsy that has been reported is that performed by Dejerine and Sortas, and as Jacobi points out, this autopsy was far from satisfactory, since the patient in addition to the myotonia had several other complications. In a number of cases, however, bits of muscle have been excised and examined. In general, the muscle-fibers in myotonia congenita are from two to four times the normal size; the border of the fiber is curved and the nuclei of the sarcolemma are increased. It has been noted, also, that the transverse striation is markedly indistinct. Jacobi has noted a "massing together of sarcous elements, and a correspondingly coarse appearance in some parts of the muscle, while in others the elements are minute."

Some authors have claimed that there is a distinct psychologic element in the symptomatology of this affection, but this observation lacks confirmation. In my case there certainly was no trace of mental enfeeblement. In the absence of any findings in the spinal cord or brain, together with the lack of symptoms pointing to brain or cord lesion, it seems to me the disease should be regarded as a faulty evolution of the muscular fibers. This view is in part confirmed by the fairly constant changes which have been observed in the excised muscle. It is interesting to observe the similarity which exists between this disease and muscular dystrophy. In both diseases there is a hereditary or at least a family tendency, both present somewhat similar changes in the muscle, and in neither would there seem to be any primary lesion in the brain or spinal cord. The various therapeutic measures which have been empirically suggested have never proved of the least value.

Hospital Appointment.—Dr. R. G. Wiener has been appointed visiting-physician to the Harlem Hospital, New York.

MEDICAL PROGRESS.

Remissions in Epilepsy.—SINKLER (*Jour. Nervous and Mental Dis.*, August, 1898) has collected reports of twenty-four cases of idiopathic epilepsy in which there were remissions varying from two to twenty-nine years. All of these cases occurred in his own practice and that of a friend, and in a hospital upon which he was in attendance. The consideration of these cases in which, after prolonged intervals, even as long as twenty-nine years, there has been a recurrence of the disease, forces one to the conclusion that it is not justifiable to consider any case of epilepsy cured, no matter how great has been the interval of freedom from attacks and appearance of normal health. Notwithstanding this unfavorable conclusion, the study of these cases brings out a fact which is satisfactory, for it shows that remissions of many years' duration may occur, in which the patient is in normal health, and is able to pursue his life as if he had never suffered from epilepsy.

Removal of the Whole Stomach for Cancer.—RICHARDSON (*Boston Med. and Surg. Jour.*, October 20, 1898) removed the whole stomach of a woman aged fifty-three years, who had for one year given evidence of cancer of the stomach. There was no ascites, and the tumor at the time of operation was plainly felt. Upon opening the abdomen it was seen that a considerable part of the stomach was involved, and but for the brilliant successes of Schlatter and Brigham removal of the tumor would have been abandoned. Examination showed that the duodenum could be brought to the esophagus, and as the disease was limited to the stomach, total gastrectomy seemed to be justifiable in this case if it ever is. The omentum was first divided and tied, exposing the posterior gastric wall. The duodenum was divided after it had been tied at the pylorus to prevent the escape of gastric contents. The attachments of the lesser curvatures of the stomach were tied and divided, and finally the stomach was cut away from the esophagus. The bell-shaped opening was too large for the opening into the duodenum, and was reduced by a few interrupted sutures. There was some difficulty in bringing the duodenum and esophagus together so that the attachments of the duodenum had to be partially divided. There was very little shock after the operation, and no vomiting, although considerable gas was raised. The patient began to take water by mouth on the second day, milk on the fourth day, egg on the sixth day, and after that a liquid diet. The recovery was apparently perfect. Two months later there was no evidence of recurrence, and a drawing sensation in the epigastrium, which had caused a slight stooping, had entirely disappeared.

Richardson thus sums up the problem which a patient with such malignant disease has to consider:

1. The suffering incident to the disease. (This may vary between discomfort and unendurable pain.)

2. A hopelessness and mental depression to which death is in many instances preferable.

3. Certain death.

If subjected to a radical operation the patient has before him:

1. The dangers and sufferings of a surgical operation. (But, though the danger is great, the suffering may be no greater—it may even be less—than the suffering incident to the disease.)

2. Hope and elevation of spirits instead of mental depression and despair.

3. A fair chance of a recovery that may be permanent, though recurrence may be the rule.

A careful consideration of this question in favorable cases leads to but one conclusion, namely, that the greatest good will follow reasonable surgical interference. The chief arguments against radical measures seem to be in the necessarily great dangers of the operation, and the uselessness of deliberately incurring them. Certainly, no method of treatment is justifiable which is useless. But the operation in suitable cases is by no means useless, as shown (1) by the lessening of suffering and the prolongation of life, facts observed by physicians and friends, and (2) by the satisfaction expressed by the patient himself.

Cure of Obesity by the Method of Schweninger.—ROMME (*La Presse Med.*, October 29, 1898) describes some remarkable cures of obesity according to the method employed by Schweninger at Baden Baden. Twenty pounds lost in five weeks, fifty pounds in eight weeks, and one hundred pounds lost in nine months, is given by an observer of this method of treatment. The effect upon the heart was most beneficial. Those patients who were afflicted with weak and irregular hearts on account of the excess of fat, and who had taken digitalis for long periods on this account, were able to take long walks without fatigue, the pulse became regular and strong. The relief of sleeplessness was another benefit derived from the treatment. The treatment is based on the simplest therapeutic resources, viz., abdominal massage, warm baths, and a suitable diet, but they are administered in a truly remarkable way. The massage is given three times a day, before each meal, with the patient lying in a relaxed condition with the knees flexed. It lasts for twenty minutes and is divided into three portions. The first part is taken up with prodding the epigastric region with two fingers while the patient draws long breaths. The force used by the operator is at first slight, but is gradually increased until as much power is applied as he has. It is painful for the patient, who is able to draw only four or five breaths. Later, however, he becomes accustomed to the exercise, and can draw twenty. The second part of the séance is the pinching. The operator takes up masses of the abdominal fat and crushes them between his fingers. This part is extremely painful and amid the cries of the patient is continued until there are numerous ecchymoses all over the abdomen. The operator next buries his knees in the epigastric region of the patient, placing his whole weight upon them, and directing the patient to take long breaths. This is considered by Schweninger the most important part of the treatment. At first a patient can only take a few breaths, but the

number increases day by day until thirty can be taken. The violent exercise of the diaphragm thus produced is said to cause the absorption of the fatty matters which embarrass its movements. As may well be supposed the patient is exhausted by these manipulations and remains upon his couch for some time. One bath is given each day, but never to the whole body. The first day the arms are put into the bath; the next day the legs, and the third day a sitz bath is given. The water has a temperature in the beginning of the bath of 100 degrees, but this is gradually increased to 120 degrees. The bath lasts twenty minutes. It makes the patient very uncomfortable until he becomes accustomed to such high temperature. By it a half-hour more or less of sleep is induced.

The diet is equally remarkable. The food is served up on doll's dishes, and is taken by the patient in his own room every three hours beginning at 7.30 A.M. and ending at 7.30 P.M. Only lean meat, eggs, vegetables, cheese and fruits are allowed. The patient may not drink at meals but after each meal he may take a swallow of a mineral water from a minute glass, amounting in the whole day to a little less than a pint. Articles which are forbidden are bread, cake, butter, and all the fats, sugar, coffee, tea, milk, wine, beer, and liquor. The constipation which is set up by this regimen is relieved by aloes or an injection of glycerin. Sunday is observed as a day of rest, and the patient receives no treatment and may go into the city and live as he pleases. If he indulges in hearty living, however, he finds his weight increased by two or three pounds on Monday morning, so that excesses of that sort are not likely to be repeated. The time required to effect a cure is usually from six to eight weeks.

One Hundred Cæsarean Sections.—LEOPOLD AND HAAKE (*Centralbl. für Gynak.*, November 5, 1898) give the results of all the Cæsarean sections which have been performed in the Dresden Woman's Hospital since 1883. There were seven deaths in seventy-one cases, only four of these being attributable to the operation. Porro's operation was performed twenty-nine times, with three deaths, making a mortality for the whole series of 5.2 per cent. The authors emphasize the importance of making a careful examination for gonococci before performing Cæsarean section. In this series of cases four children were lost. Twice rupture of the uterus occurred before operation, but in each instance the mother and child were saved. In one-half of the cases there was no fever during convalescence. Thirteen of the patients developed septic symptoms. Five of the ten deaths were caused by sepsis or suppurative peritonitis.

Recurrent Dislocation at the Shoulder-joint.—FRANCKE (*Deut. Zeit. für Chir.*, vol. 48, p. 399) reports upon the pathologic condition of eighteen cases of habitual dislocation of the shoulder, a part of the material being examined at operation, and a part at autopsy. The condition most frequently found was that of hydrops of the joint. Alterations in the bones involved in the joint held the second place. The following list shows the frequency of occurrence of the various lesions: Dilatation of the capsule, 16; communication with the subscapular bursa, 1; rupture of the capsule along the glenoid, 3; rupture of the deltoid, 4; rupture of the deltoid with fracture of the greater tuberosity, 1; defects in the head of the humerus, 12; defects in the glenoid, 9; foreign bodies in the joint, free or attached, 5; foreign bodies complicated with hydrops, 2. The defects on the head of the humerus were often of a typical sort, namely, a groove on the posterior side of the head of the bone, to the inner side of the greater tuberosity. Such a defect has been variously interpreted as due to the breaking off of a fragment of bone, and to wearing from abnormal pressure. That the former sometimes happens, is shown by the occasional presence of the fragment of bone, but the correct explanation in most cases is undoubtedly that given by Koenig. He said that if a part of the head of a bone was subjected to a contusion, it could be absorbed by subsequent inflammatory processes. Hence the name, "osteochondritis dissecans," which he applied to it.

In fifteen of the cases reported operation was performed as follows: Nine times resection of the head of the humerus; five times opening of the capsule which was subsequently sutured or drained; and once infolding of the capsule without opening it. Resection of the head of the bone prevented future dislocation, but often affected the mobility of the joint and is therefore to be avoided. A better treatment consists in exposing the capsule, and then taking a tuck in it, or opening it and resecting a portion of it, or removing from the joint any foreign body together with suture of any muscle which has been torn from its attachment. The joint should be kept quiet for at least two weeks, with drainage or tamponade in order to secure the utmost possible retraction of the soft parts.

THERAPEUTIC NOTES.

For Pain Following Extraction of Teeth.—This pain, which is often severe and more or less persistent and rebellious to treatment may be soothed by the introduction into the alveolar cavity of a bit of absorbent cotton saturated with one of the following solutions:

1. ℞ Chloroformi, Spiritus, Tinct. aconiti aa . . . . *m.* lxxv
   Morphinæ . . . . . gr. i.
   M. Sig. External use.

2. ℞ Spiritus . . . . . ʒ ii
   Chloroformi . . . . . ʒ iv
   Etheris . . . . . *m.* lxxx
   Camphoræ . . . . . ʒ i
   Tinct. opii . . . . . *m.* xxx
   Ol. caryophylli . . . . *m.* viii.
   M. External use.

Hot applications to the cheek may also afford relief, or painting the gum around the painful points with the following:

℞ Menthol . . . . . gr. vi
Tinct. aconiti . . . . gtt. xx
Chloroformi . . . . . *m.* c.
M. Sig. External use.

THE MEDICAL NEWS.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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Address the Editor: J. RIDDLE GOFFE, M.D.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK.

Subscription Price, including postage in U. S. and Canada.

PER ANNUM IN ADVANCE $4.00
SINGLE COPIES 10
WITH THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, PER ANNUM 7.50

Subscriptions may begin at any date. The safest mode of remittance is by bank check or postal money order, drawn to the order of the undersigned. When neither is accessible, remittances may be made, at the risk of the publishers, by forwarding in *registered* letters.

LEA BROTHERS & CO.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK,
AND NOS. 706, 708 & 710 SANSOM ST., PHILADELPHIA.

SATURDAY, DECEMBER 31, 1898.

THE PRESIDENT OF THE BOARD OF HEALTH AND THEORIES OF DISEASE.

PRESIDENT MURPHY of the New York Board of Health said in a "public statement" on "so-called grip, or whatever it might be called, either influenza or anything else."

I should like to have the opinion of these scientific gentlemen who now talk so freely of grip and other diseases whether they have ever thought of the effect of the asphalt pavement that so poultices our streets, what those effects are? A heat oozes from the asphalt pavement in summer and it becomes soft. Have the physicians of New York ever investigated that, and if it becomes soft and odor arises from it then, what are the effects of it in winter?

We would humbly submit that it is a condition, not a theory, that the President of the New York Board of Health has to face. The cases of epidemic disease that are at present so rife in New York City may not all be grip. We expressed our views editorially on that matter last week. The daily papers were certainly over-hasty, from a medical standpoint, in their announcement of the prevalence of grip epidemically and their scare headlines were of a nature to do New York serious commercial injury. We are, however, without doubt, in the presence of an epidemic or series of epidemics of contagious or infectious disease, call it what one will. This is partly due, we are sure, to unfavorable meteorological conditions which have obtained unseasonably. The absence of the accustomed amount of sunlight and the presence of superabundant moisture has given an impulse to bacterial growth, not only in numbers, but in virulence. This increase in number and virulence of pathogenic bacteria, however, is not all due to the weather alone. The condition of our streets is undoubtedly an important factor in the matter. There are streets from which the snow which fell nearly a month ago is scarcely yet entirely removed. We would suggest that the President of the Board of Health of New York City could, under these circumstances, put in his time better than in suggesting, in questionable English, subjects for doctors to theorize about. He might turn some of his intellectual acumen and ability to ask questions to questioning the Street-cleaning Department of this city as to why our streets are as they are. He might turn some of the forces of the Health Department over to the Street-cleaning Department to help clean the streets. It would be very properly within his province of caring for the health of New York City, for the Street-cleaning Department seems unable to do its duty in protecting the city's health. Or he might begin proceedings against the Street-cleaning Department for maintaining a nuisance or any one of one hundred and one other things. Only let him do something, not talk.

STUDY MEDICINE AT HOME, $2 A MONTH.

EVERY man is said to be either a fool or a physician at forty. There will evidently be no reason hereafter for him to wait until that advanced age, since for the moderate sum of $2 a month he may become both, long before that time. Two dollars a month is not much to pay for the acquisition of so much knowledge. Crocheting and farming and poultry-raising and fancy work and languages and literature and engineering are all being taught by mail *at home*, so why not medicine? After the student considers that he knows enough, and it does not take long to acquire that felicitous condition when one is learning by mail and at home, and has acquired experience by practising, we suppose, on the members of the family circle why then he may purchase a diploma. There are States where it will not be difficult for him to legitimately begin practice, and

others where he will acquire a practice all the sooner if there is an air of irregularity about him.

It is a matter for sincerest congratulation, however, that an end to this sort of thing does not seem far off. There is an interest being taken in medical organization that will finally lead to the suppression of quackery. Much remains yet to be done and the interest manifested leaves much in general to be desired, but everywhere now there is at least the recognition of abuses; the means for their suppression will surely be found. Let us hope that the signs of the times are not false and that the hour is not distant when every practitioner in the country will feel that he is ready to make some personal sacrifice for the abolition of quackery. When that moment arrives the death-knell of this blatant medico-mimicry so obtrusively demanding attention all around us will have surely sounded.

SOCIETY AND EARLY CLOSING.

SOCIETY in two of our large Eastern cities has resolved, it is said, to make an effort to bring balls and social functions generally to a close some hours before dawn. As medical men we cannot but congratulate the "goddess that makes for fashion," on this wise indulgence and remission to her devotees of their exacting duties. How much of nervous exhaustion and early degeneracy in certain classes of people, is due to the evil of turning night into day only the medical profession really knows. In a not distant city the evil is said to have reached such a pitch that when, by some chance, the special bit of femininity in which a young man is interested goes home early from a ball, say at 3 A.M., he stands on the curbstone, after having comfortably stowed his divinity and her chaperon in their carriage, and, unwilling to go back "where she is not and but now was," wonders within himself whatever shall he do with the evening that has been thus ruthlessly broken in upon.

Nature is a good usurer. She lends of the vital treasure stowed away almost whatever we ask, but she collects the debt mercilessly and charges a high rate of interest. Abuses like this in the matter of sleep are drafts on life due ten or perhaps twenty years after date, but then without grace. Metaphor aside the evil is a serious one. Many a failure in business, many a breakdown in young lives, is due to the unreasonable demands of senseless fashion.

We plead for shorter hours for the overworked devotees of fashion with as earnest a humanitarian purpose and as serious a feeling of sincere pity as we do for the workman and workwoman called upon to spend too long hours at their daily toil.

HIPPOCRATES AND CURATIVE INJECTIONS OF GAS (AIR) INTO THE PLEURAL CAVITY.

IN reference to priority in the use of intrapleural injections of gas of some form, as discussed in our issue of November 12th, a correspondent, Dr. J. F. E. Colgan of Philadelphia, calls our attention to the following condensed quotation from Hippocrates, as it occurs on page 263 of the "Epitome of Hippocrates and Galen," Coxe, Philadelphia, 1846, under No. LVIII.: "The lungs falling on the pleura (?). It arises sometimes from a wound or from the operation for empyema; singular treatment for, by introducing air into the cavity."

The quotation is an epitome, and not a very lucid one of chapter xxiii of the second book "On Diseases," which may be found in its entirety in Volume III. of Haller's (Lausanne, 1784) edition of Hippocrates' works. Under treatment of *pulmo in latus decumbens*, retraction of the lung (we suppose), occurs the passage: (If the lung should retract) after a wound or after section for empyema (*purulento secto*), then a bladder being fastened to a tube should be filled with air and introduced, being closed by a solid pencil of tin fastened to it and allowed to protude. Just what the idea of this method of treatment was he does not say. With its results he seems to have been perfectly satisfied, for he adds: "This method of treatment will give the results you desire."

It would be most interesting could we have some data of Hippocrates' cases treated by this method, for the treatment of traumatic pneumothorax or empyema in our day is not so perfect but that we would be ready, if they promised good results, to receive suggestions even from Hippocrates. As to the question of priority of idea in intrapleural injections, the probability is that under the circumstances a court of patents would be apt to decide that the ancient scientist has not so completely com-

passed the principle, in the matter of setting the lungs at rest for therapeutic purposes, as to render the idea legally unpatentable by an enterprising modern who had rediscovered it. This is said in simple justice to the modern inventor. It is to be hoped, however, that our German confrères will not seize upon the suggestion and forthwith proceed to secure American patents. .

In this connection the fact must not be lost sight of that the merit of discovering a new and useful application of principles previously enunciated but unapplied and forgotten is quite as great as that of him who first conceived it.

MASSAGE BY TRAINED NURSES.

IT is quite probable that the trained nurse, during the time spent in hospital service, finds her hands very full, and would rebel against the extension of her curriculum by so much as a jot. She is hard-worked all day and is little inclined, according to our experience, to sit through didactic lectures or theoretic talks during the evening. But those who have the most vital interest of the correct training of nurses at heart and who employ them in their post-graduate work have a right to expect efficiency in certain directions which is unfortunately lacking in many nurses at the present day. If the trained nurse is really the "handmaid of medicine" she should be able to carry out all the instructions of the physician without a resort to outside aid.

In view of the increasing favor with which massage is regarded as a curative factor in many cases, as a necessary measure in others, it has become essential that the trained nurse shall be able to execute this measure in accord with scientific principles and in harmony with physiologic needs. The hours endured by the young women in our hospitals acquiring the merest smattering of anatomic terms, physiologic complexities, and the doses of unused drugs might well be spent in the practice of massage under the instruction of a competent teacher. It would by no means be regarded as a superfluous accomplishment for the trained nurse properly to carry out massage treatment, but would further the usefulness of this eminently useful young woman. Again and again it happens that a family is able to stint itself sufficiently for the employment of a competent nurse, but does not command resources great enough for the additional service of a *masseuse* when this proves necessary. Economy and convenience in general demand that the trained nurse shall be able to perform this function; nothing that she may be able to do to further the recovery of a patient and to assist the physician in this purpose is superfluous. Among the important elements tending toward these ends is massage.

DOCTORS' PROTESTS NOT ALL IN VAIN.

SOME three months ago one of our foreign correspondents called special attention to the fact that the Congress of Slavish Naturalists and Physicians would not be held at Posen this year as announced, because of the prohibition, by the Prussian police department, of the attendance of foreigners. As this police regulation would exclude the Russians, the Poles and the Czechs, who form the great majority of the usual attendants at the Congress, the meeting was postponed until 1900, when it will convene at Cracow in Austrian Poland. As our correspondent noted, the decree of the police excluding Austrian subjects from attending a scientific congress in the supposedly fraternal territory of a member of the Triple Alliance had been the occasion for vigorous protests and representations to the Austrian Government on the part of the Czechish and Gallician physicians who had expected to attend the Congress.

The result of these protests has become apparent in some recent head-lines in the daily press, "The Triple Alliance in Peril," "Austria Threatens to Withdraw from the Triple Alliance," and the like. The ostensible motive for the formal declaration of the Austrian Prime Minister before the Imperial Parliament "which fell like a thunderbolt on the Germans," is the fact that Prussia has been expelling numbers of Austrian subjects from her dominions because they are Slavs. This expulsion of Austrian Slavs has been going on for years, and it is noteworthy that the vigorous Austrian protest in the matter should come only three months after the Prussian insult to the Slavish scientists and medical men. The handwriting on the wall is not hard to read for one who knows something of political conditions among the Slavs and who realizes that the great apostles of the new Pan-Slav movement among the Czechs, the Poles, and the Russians have been the members of the medical profession. The au-

thority and respect which their position among the people gives them has been used on every possible occasion for a zealous propaganda of the new Slavism and the dissemination of ideas that would lead their fellow countrymen to claim the racial prerogatives to which their numbers entitle them. The Prussian Government tackled a hornet's nest when it saw fit to impugn the motives of the Slav scientists and physicians who were to meet at Posen, and assumed that their object was a political one. Our foreign correspondent said at that time that the final result of that interference was not yet in sight. The present conjuncture justifies that prophecy. Meantime there is a lesson for the physicians of all nations in the present situation. It seems to read "In union there is strength."

ADVERTISEMENT OF ABORTIFACIENT REMEDIES.

THE trial of the parties who, after selling abortifacient remedies in London, endeavored to blackmail their customers, the threat of legal prosecution "for the awful crime of attempting to bring about abortion or prevent birth being hung over them unless they forwarded ten dollars," has brought with it some very interesting developments. The judge who is trying the case announced during the progress of the trial that newspapers publishing advertisements of remedies that were, or were evidently meant to be considered, abortifacient in their action were amenable to legal prosecution as "accessories before the fact." This is a decision of the widest significance and has had an immediate practical application in England. Our London correspondent in his letter published December 24th, announces that the London police department have issued a public notice, that in future all newspapers inserting such advertisements, after one warning, will render themselves liable to prosecution for inciting to crime.

It is utterly disingenuous to argue that such advertisements are printed by newspapers in perfect good faith and with the sincere belief that they are only calling public attention to certain very proper emmenagogues. If proof to the contrary however were required it would be found abundantly in the fact that, in England at least, such advertisements are accepted at, not two or three, but sometimes four or five times regular space-rates for ordinary legitimate advertising. Doubtless the same state of affairs would be found to obtain in this country if the advertizing managers of some of our abortifacient publishing journals were consulted. It is, of course, well understood, at least by medical men, that none of the much-lauded abortifacients ever produce the result looked for, despite the testimonials to that effect, sometimes published. That, however, only adds the crime of selling under false pretences to that of inciting to crime.

The English have in this matter evidently hit upon the solution of a most difficult and disgracefully manipulated question. We call attention to the methods they employ and the legal principles upon which their proceedings are founded in the hope that our medical societies in this country may be encouraged to do something for the remedy of a glaring evil that disgraces our American journalism. May we be able to chronicle before the end of the year that is just upon us, some steps in this matter looking to the correction of the abuse.

ECHOES AND NEWS.

Six Convicts Made Insane.—Six convicts, driven mad by idleness, were recently taken from the Kings County Penitentiary to asylums for the criminal insane. One of the penitentiary officials said that until the abolition of convict labor there had not been a case of insanity in that institution for years.

The New York State Medical Society.—The cheering news comes from the Business Committee of the New York State Medical Society that the program for the next meeting is already overflowing with contributions, and that no more applications for positions on the program can be entertained.

Christian Scientists Convictions.—For the second time within two weeks, a Cincinnati, Ohio, jury has convicted, and a Cincinnati judge has fined, a practitioner of "Christian Science," who had been arrested on the charge of violating the State law which forbids any but duly licensed doctors to treat the sick for hire.

Many Kiss the Relic of St. Anthony.—At the Catholic church in East 113th street, between Second and Third avenues, New York, the sacred relic of St. Anthony of Padua (a portion of the thigh bone) has been exposed and is being kissed by hundreds of people. Among these people are many deaf, dumb, blind, and lame who hope for relief.

Clinics at the Skin and Cancer Hospital, New York.—Dr. L. Duncan Buckley has inaugurated a series of clinics on diseases of the skin, every Wednesday afternoon, at the New York Skin and Cancer Hospital, beginning at 4.15 P.M. The course is free to the medical profession.

Clinical material is abundant, the facilities for such work are excellent, and the accommodations for spectators and patients most comfortable.

Bubonic Plague on a British Steamer.—The report comes from Plymouth, England, that there was a case of bubonic plague on board the British steamer "Golconda," which arrived from Calcutta via Mediterranean ports. The patient was one of the cabin passengers, an officer in the India Company's service, who was coming home on leave. He was attacked by the disease the day after the steamer left Marseilles, and was isolated as soon as the nature of his disease was learned. He was landed in Plymouth.

The Report of the New York State Commissioners of Lunacy.—This, the last annual report is a large volume made up of statistics, photographs, tables, and detailed accounts of the work of the State's twelve great hospitals and their 20,000 insane inmates. The evidence furnished seems to show that the present method of caring for the insane is, on the whole, an efficient and creditable one. Besides hospital records, this report contains other matter, notably a description of the Pathological Institute which has just been established for the scientific investigation of the nature and cause of insanity.

Advertising within the Profession.—We glean from the *Medical Press and Circular* that a series of illustrated medical biographies have been appearing in the pages of the *Dublin Lady's Pictorial.* The Presidents of the Irish Colleges of Physicians and Surgeons were persuaded to allow their portraits to appear as the first in the series. As our contemporary very justly says, "if dignitaries and titled personages are allowed to advertise themselves in this way so should the working men of the profession, and to that end all restrictions as to advertising embodied in the by-laws of medical societies should be repealed."

A Quack in Trouble.—The *Texas Clinic*, in its December number, quotes from the MEDICAL NEWS the letter of correspondence recently published regarding a Dr. Bemis of Glen Falls, N. Y. In commenting upon this the editor of the *Clinic* says: "The editor has heard of Dr. Bemis. The flattering reports of his wonderful cures, by an eminent divine of Louisiana, caused many patients to go to him from that section. Two of these unfortunates were personal friends of the editor. Each was assured of a complete cure and each was relieved of a good sum of money, but neither benefited in the least."

Dr. Adams Lectures at Bellevue.—By invitation of the faculty, Dr. S. S. Adams of Washington delivered a lecture last week before the senior class of the University and Bellevue Hospital Medical College, New York, upon the subject of "Fevers in Children; Their Significance and General Diagnostic Value, and Antipyretic Treatment." The lecture was given at the usual hour devoted to Pediatrics. This custom, inaugurated, we believe, by Professor Northrup, of occasionally inviting a prominent specialist to occupy his lecture hour, has many features to commend it. It is a pleasant and instructive experience for the medical class, it is a stimulus to the guest, and productive of a cordial feeling among all concerned.

A French Medical Hero.—A decree dated October 1, 1898, confers the cross of the Legion of Honor upon M. le Dr. Bartel, a young naval surgeon in the French service in Upper Dahomey. The brave deed for which the decoration was conferred is thus briefly described in the official record. "During the affairs of the 4th and 8th of November, 1897, while serving with the Borgan column, this officer, despising death, completed his difficult duty beside the wounded under a perfect rain of arrows." We noted last week the conferring of the Victoria Cross upon an English surgeon for a like act of conspicuous bravery. Medical gallantry knows not any narrow national limits, and the call of duty is as powerful to the French as to the British medical man, though both are attending to common soldiers and sailors in a distant foreign country and without thought of the possible distinction to come inspired only by the sense and motive of care for the wounded who looked to them for help.

The New York Eye and Ear Infirmary.—Advance sheets of the annual report of this institution show that it is accomplishing much good work, although hampered by lack of pavilions for the use of the ear and throat department and for the reception and care of patients suffering from contagious diseases of the eye. The surgical staff now comprises more than fifty. The resident house staff, clinical assistants and assistant surgeons are selected after a competitive examination. During the year ending September 30, 1898, 24,904 new patients and 42,977 patients were treated in the eye department; 818 patients, 418 of whom paid board, were received in the eye wards, and 2771 surgical operations were performed, including 178 for cataract. The Hoab magnet has proved invaluable for locating and also for removing pieces of steel from the eye. The throat and nose department treated 4947 new patients, an increase of about 500 over the former year; of these 3000 suffered from throat affections; 1136 operations were performed without any fatality.

An Unfortunate Dental Fatality.—The London *Medical Press* reports the following sad story from Australia which is probably unique of its kind. A young lady immediately after the extraction of a tooth was taken with violent cough and dyspnea which persisted in spite of all remedies until her death, which occurred two weeks later. At the autopsy a tooth was found in a bronchus; infection of the lung parenchyma had occurred, and gangrene had supervened to bring on the fatal issue. The dentist denied that he had let the tooth slip from the forceps, but the evidence presented showed that he had put the attendants out of the room and inverted the patient. This he declares he did because the root of the tooth was badly affected, pus had collected there and he feared that she had aspirated septic pus into her trachea and bronchi. It seems plain that he knew that the tooth had passed into the air-passages, since if it had merely been swallowed he would scarcely have resorted to the extreme measure he employed. For the concealment of the fact,

he is criminally responsible, since candor in the matter might have led to operation and so possibly prevented a fatal issue.

Smallpox in the United States.—It is evident from the recent report of the Marine Hospital Service that the widespread invasion of smallpox is being rapidly suppressed.

OBITUARY.

DR. JOHN B. HAMILTON.

DR. JOHN B. HAMILTON, former Surgeon-General of the United States Marine Hospital Service, and editor of the *Journal of the American Medical Association*, died at Elgin, Ill., December 24, 1898. For more than a year he had been superintendent of the State Asylum for the Insane, at Elgin, and it was within the walls of that institution that he breathed his last. While on a visit to the East two weeks ago Dr. Hamilton was attacked by a severe cold upon which a sharp attack of peritonitis supervened.

He grew worse rapidly, and on December 18th it was decided by Dr. Nicholas Senn that an operation was necessary to save the patient's life. The operation was performed, but such conditions were found as to render all chance of recovery doubtful. He rallied slightly after the operation, and for a few days there seemed to be a probability that he would pull through. During the last two days he had, however, been sinking slowly, and death came at 6:30 o'clock Christmas eve.

Dr. John B. Hamilton was born in 1847, in Jersey County, Ill., and was graduated from Rush Medical College, Chicago, in 1869. In 1874 he was appointed Assistant Surgeon in the United States Army, but resigned in 1876 to enter the Marine Hospital Service. Three years later he became Supervising Surgeon-General of that service, succeeding General John M. Woodworth. Dr. Hamilton infused new life into this department of the Government and instituted important reforms. He caused the first visual examinations of pilots to be made, and the first physical examinations of seamen preliminary to shipment. During his incumbency of office he succeeded in having the National Quarantine acts passed.

In June, 1891, when the House of Representatives failed to pass the Senate bill providing for the equalization of the salary of his office with that of the Surgeon-General of the Army and the Surgeon-General of the Navy, Dr. Hamilton resigned his commission as Surgeon-General and returned to the ranks. He was stationed at Chicago for three years in charge of the Marine Hospital service, but in 1896, rather than be transferred to San Francisco, he resigned from the service altogether. He was professor of surgery at the Rush Medical College and the Chicago Polyclinic, surgeon to the Presbyterian Hospital and consulting surgeon to the St. Joseph's Hospital and the Central Free Dispensary. Dr. Hamilton's reputation will rest especially upon the work he did while at the head of the Marine Hospital Service and his editorial labors in connection with the *Journal of the American Medical Association.*

CORRESPONDENCE.

LYCOPODIUM POLLEN IN URINE.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—To one who has not himself had the experience, the account given by Dr. George Dock in your issue of December 17th, of the difficulties encountered in recognizing lycopodium pollen in the urine will seem somewhat far-fetched, but having had a somewhat similar experience I can join with him in expressing surprise that a substance which is in such general use and which has such a striking appearance under the microscope should be so unfamiliar even to expert microscopists.

The fact that not one of the various text-books on urinary analysis even mentions the occurrence of lycopodium pollen in the urine led me to publish a note on this subject in *Pediatrics*, page 107, February 1, 1896.

M. MANGES, M.D.

941 MADISON AVENUE,
NEW YORK, December 23, 1898.

THE TREATMENT OF GRIP.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—Inasmuch as the pathology of grip is still somewhat obscure and its etiology practically unknown, the treatment is naturally directed toward the relief of symptoms. While these differ widely in different patients there are nevertheless a few constant phases of the malady that have been seen in all of my cases.

In the cases that I have seen I found high temperature, full, rapid pulse, pain in the back, orbital pain, headache, muscular soreness, restlessness and insomnia, and usually constipation. So common was the last symptom that I am led to believe it a causative factor, or at least a condition necessary to the disease. The premonitory coryza of former epidemics did not appear in my cases until the other symptoms had subsided. The urine was scanty, highly colored, and of high specific gravity, but repeated examinations in twelve cases showed the presence of albumin in only one.

In lieu of more scientific treatment it seems to me that elimination by all the avenues of excretion is the rational way to attack the disease. As it is usually of short duration we need not fear prostrating measures. I order the patient sponged with alcohol, a mustard plaster placed over the seat of pain in the back, and prescribe the following:

℞	Pulv. ipecac. et opii . . .	gr. x
	Hydrarg. chlor. mitis . . .	gr. iii
	Sodii bicarb.	gr. ii.

M. Sig. Take at bed hour.

Next morning I give a tablespoonful of effervescent sodium phosphate in a glass of water and advise the patient to drink water freely throughout the day. Every two hours he is given phenacetin gr. v until five such powders have been taken. His diet is oatmeal, milk, and toast. After the acute symptoms have disappeared and there is left only a feeling of weakness, anorexia, and lack of ambition I prescribe a preparation of the alkaloids

of cod-liver oil with the malt and hypophosphites. This being slightly bitter stimulates the appetite and within a week puts the patient in normal condition.

JOSEPH ALAN O'NEILL, M.D.
118 WEST EIGHTY-FOURTH STREET,
NEW YORK, December 24, 1898.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent]

REORGANIZATION OF THE POLYCLINIC — HOMEOPATHIC STATE HOSPITAL FOR THE INSANE — THE HEBREW CHARITY BALL—PERSONAL NOTES—STATE MEDICAL EXAMINING BOARD—DIPHTHERIA CLOSES A SCHOOL—BOARD OF HEALTH NOTES — INFLUENZA—HEALTH STATISTICS.

PHILADELPHIA, December 27, 1898.

RUMORS have been rife as to changes in the management of the Polyclinic and of differences of opinion which were said to threaten the equanimity of its faculty. Consequently the announcement that the Board of Trustees which formerly contained medical men will, after January 9th, consist only of laymen, is no surprise. Dr. John B. Roberts, President of the Board, resigned this position about a month ago and Drs. Henry Leffman, Thomas S. K. Morton, W. J. Freeman, and Samuel D. Risley, members of the board, will also resign. It is stated that all concerned feel that more attention can be given to instruction, and the business matters of the institution can be more readily handled under this new régime, a step which has apparently been necessary for some time.

The Homeopathic Medical Society of Germantown, at a meeting held last week, received from Dr. Isaac W. Heysinger the report of the Committee on Organization for a State Homeopathic Hospital for the Insane. Each homeopathic society in the State is to send delegates, together with a committee from the State Homeopathic Society, to secure passage, by the next Legislature, of a bill providing for such an institution. A similar bill was passed by the last Legislature which the Governor did not sign. When it is remembered that there are now five State institutions for the insane for which it has been impossible to secure from the Legislature sufficient money to prevent overcrowding, and that there is likely to be some general opposition, it seems extremely doubtful that the bill will be passed.

The Hebrew Charity Ball will be held February 7th and the money raised, of which there is always a large amount, will be divided between various charities, among them being the Jewish Maternity Association, the Jewish Hospital Association, and the Jewish Foster Home and Orphan Asylum.

Dr. Stewart Reeser, a graduate of the Medico-Chirurgical College and formerly Resident Physician of the Friend's Asylum at Frankford, died at his home in Scranton on Friday, December 15th.

Dr. John Marshall, Professor of Chemistry, Dr. George A. Piersol, Professor of Anatomy, and Dr. Edward T. Reichert, Professor of Physiology, all of the University of Pennsylvania, have gone to New York to attend the Association of American Anatomists and the Chemical and Physiological Societies.

At the last meeting of the College of Pharmacy, William B. Thompson read a paper, entitled "Some Observations on Acetracts in Comparison with Fluid Extracts." While further clinical experiments are needed to determine their value many favorable points seem to make the employment of the acetracts a mere matter of time. Lyman F. Kebler presented a paper on the "Physical and Chemical Properties of Lithium Benzoate and Lithium Salicylate," being a continuation of his work on this subject for the Committee on Revision of the Pharmacopœia.

The State Medical Examinating Board held a meeting last week at the Lafayette Hotel to make its final decisions on the examinations of applicants for licenses to practise medicine in Pennsylvania. One hundred and three graduates took the examination, which was held early in December, and of this number three were expelled for cheating, twenty-nine failed, and seventy-one were passed by the board.

In a report submitted last Friday by Medical Inspector T. Howard Taylor to the Board of Health, it was recommended that St. Stephen's Parochial School be closed on account of an alarming prevalence of diphtheria in the school. Six deaths and a large number of cases have occurred in this school, and the board ordered it closed for twenty days for thorough disinfection and fumigation. The question of admitting medical students of advanced grades to the Municipal Hospital for the purpose of studying contagious diseases was again brought before the board, and on motion it was decided not to admit them.

Dr. Woodward, owner of the church property which is being used by the Board of Health for a case of typhus fever, has presented the church as a gift to the city. When Director Riter sanctioned its use as a means of preventing the spread of typhus among Municipal Hospital patients much criticism was indulged in, many calling it a ruse to make the city pay an exorbitant price for worthless property, and others saying that it was done to put a stop to the movement on foot to change the location of the Municipal Hospital. By Dr. Woodward's gift this movement will, incidently, be killed, and the city at an expense of $600 for fitting up beds, etc., will secure room for about thirty additional patients.

Philadelphia's death-rate has markedly increased during the past week, in which there were 169 more deaths than in the week before and 254 over the corresponding week of 1897. There were 29 deaths resulting from grip and 129 ascribed to "inflammation of the lung," many of which were no doubt due primarily to influenza. Dr. John B. Deaver is quoted as saying that he firmly believes influenza is the most frequent cause of appendicitis, producing as it does a catarrhal inflammation of the gastro-intestinal tract which leads to appendicitis. He says further that during the present epidemic he has performed two operations which he does not hesitate in stating most positively had their origin in attacks of influenza, and believes there will be an appreciable increase in the number of appendicitis cases. Many physicians incline strongly to this belief, and the present epidemic should

give us opportunities of proving or disproving this theory. The epidemic thus far seems to have been increasing by enormous strides and while the first cases were marked by their short duration and mildness, this is no longer the case.

The total number of deaths occurring in Philadelphia during the week ending December 24th, as reported at the Health Office, was 650, of which 164 occurred in children under five years of age. The total number of new cases of contagious diseases was 234, reported as follows: diphtheria, 80 cases, with 18 deaths; scarlet fever, 33 cases, with 2 deaths; typhoid fever, 130 cases, with 24 deaths.

MEDICAL MATTERS IN CHICAGO.

[From Our Special Correspondent.]

BLOOD OF TUBERCULAR PATIENTS—AMEBIC DYSENTERY IN CHICAGO—ADENOID GROWTHS IN THE PHARYNX—DONATION BY MRS. AVERELL—ANNUAL REPORT OF ST. LUKE'S HOSPITAL—PUBLIC HEALTH AT THE CHICAGO WOMAN'S CLUB—ANTITOXIN TREATMENT OF DIPHTHERIA—FORMALDEHYD DISINFECTION—INERT VACCINE LYMPH—SOCIETY FOR THE PREVENTION OF TUBERCULOSIS.

CHICAGO, December 27, 1898.

AT the meeting of the Chicago Academy of Medicine, held December 9th, Dr. George W. Johnson presented a contribution to the study of the blood of tubercular patients. He reported observations on the blood of fifty tubercular patients in the advanced stage of the disease, the diagnosis having been established by microscopic examination of the sputum. Especial attention was given to cavity formation with the idea of determining the presence or absence of leucocytosis in such conditions. The technic employed was essentially that detailed in Cabot's work on the blood. Pus micro-organisms were found with great abundance in each one of the fifty cases. Chlorosis was met with in eight cases, five of them being males. In cases of chlorosis there is lymphocytosis; in secondary anemia the adult lymphocytes are the more numerous. Well-defined necrobiotic changes were noted in thirty-six of the fifty cases. Of these thirty-six cases, twenty-eight had secondary anemia. The hemoglobin was far below normal in each of the cases; forty-five of the fifty cases had pathological leucocytosis; cavities were demonstrated in twenty-eight cases; twenty-six of these showed great increase in the number of white cells; nineteen in the remaining twenty-two also had leucocytosis, although no cavities were demonstrated. He believes leucocytosis is diagnostic of cavity formation if the vital resistance of the patient is maintained.

At a meeting of the Chicago Medical Society, December 14th, Dr. R. B. Preble reported two cases of amebic dysentery, which he said is not so very uncommon in Chicago, but the great majority of the cases are imported, so that these two cases are of interest because they were acquired in this city. He finds, by inquiry that a few practitioners have observed cases acquired here, but none of them have been placed on record. The first case was in an American, thirty years of age, a resident of Chicago for nine years. For the past fourteen months he has had diarrhea with blood and mucus in the stools, moderate tenesmus and abdominal pain. Ameba coli were found in large numbers. Improvement, but not recovery, has been observed under colonic flushings of quinin and of silver nitrate. The second patient, Mrs. C., is fifty years of age, Irish, and has been a resident of Chicago for thirty years. She had diarrhea with blood, mucus, and pus, during the summers of 1897 and 1898, with ameba in the stools.

The widow of a Chicago pioneer, Captain Albert J. Averell, has donated to the Presbyterian Hospital of this city, $50,000. The gift provides in perpetuity for ten free beds for men in the hospital in memory of her husband. Mrs. Averell's gift opens the second free ward of the hospital. The other free ward is the William Armour memorial ward, also of ten beds, endowed by Mrs. Bertha Cobb Armour, in memory of her husband. The hospital, however, has many more free beds and several free rooms. Since its organization in 1884, the Presbyterian Hospital has cared for 21,000 patients, and the daily average of its eight wards is 200 patients. The daily average of free patients for the year has been 65.

St. Luke's Hospital has issued its annual report covering sixty-five printed pages and telling what has been accomplished from October 1, 1897, to October 1, 1898. This was the thirty-fifth year of the hospital, and in the twelve months the receipts were $82,439.79, with disbursements of $81,183.89. During the year 1761 patients were treated. The greatest number in the hospital at one time was 141, February 4th. The net maintenance expense, according to the report of the superintendent, was $66,585.69.

Recently the Chicago Woman's Club discussed the matter of "Public Health of a Large City." Professor Edwin O. Jordan, Assistant Professor of Bacteriology in the University of Chicago, spoke of the need of pure water. He said that typhoid fever and Asiatic cholera are the only diseases which can be traced directly to impure water. A good way to test the sanitary condition of a community is to consider the amount of typhoid fever prevalent. Sand filtration, in his opinion, is the only effective means by which the water-supply of a large city can be purified. The efficiency of this method in freeing the water from typhoid bacteria is demonstrated by the experience of Hamburg, Germany, and Lawrence, Mass. In the latter city the death-rate from typhoid fever ranged from 105 to 134 during the six years preceding the construction of the filters. The year after the filter was put into operation the typhoid-fever rate fell to 47, and in 1897 it had been reduced to 16. Figures show that the considerable expense involved in the construction of sand filters is more than counterbalanced by the saving to the community in valuable lives, as well as in obviating the expenditure otherwise necessary in the care of the sick, etc.

In speaking of disposing of sewage he said that the problem of sewage disposal is twofold and includes, first, the keeping of the sewage out of water-supplies, and second, the prevention of a nuisance. The economic

value of sewage has perhaps been overestimated. Modern science has revealed other methods of replenishing the store of nitrogen in the soil.

Miss Marion Talbot discussed sanitary plumbing, and Dr. Sarah Hackett Stevenson spoke of public baths. Dr. Arthur R. Reynolds, our City Health Commissioner, closed the meeting with an address on the work of the Health Department, dwelling mainly upon the mortality of the city, giving comparisons for many years back. He made a feature of his address the decrease in the mortality of infants since the milk-inspection ordinance was adopted.

The Department of Health calls attention to the results of the antitoxin treatment of diphtheria. During November, 163 reported cases of diphtheria were investigated; of these 98 were bacterially verified as true diphtheria, and were treated with antitoxin. With 4 cases remaining under treatment from the previous month, a total of 102 cases were treated, with 97 recoveries, 3 deaths, and 2 remaining under treatment at the close of the month. This gives a mortality of three per cent. for the completed histories. The gravity of the cases is shown by the large number (10) requiring intubation. Of the deaths, 2 occurred among the intubations, and all 3 fatal cases were first seen later than the fourth day of the disease.

Of formaldehyd disinfection, an unusually low temperature during November afforded opportunity for demonstrating the sufficiency of the margin of safety, both as to volume of gas evolved and period of exposure in the department method of disinfection by formalin-sprinkled sheets. Special tests were made during the coldest periods—week ending 19th, mean temperature 39°, lowest 30°, and week ending 26th, mean temperature 29°, lowest 2°—in unheated rooms where the temperature was below the freezing-point. It was found that evaporation was so far retarded that the sheets were not entirely dry at the end of five-hours' exposure; but streak agar inoculations of diphtheria, typhoid, and coli-communis bacilli in inclined tubes were sterilized to the depth of one and one-half inches in this period of exposure. Beneath this point there was growth in all cases after seventy-two hours.

During the year 1897, the Department of Health distributed 126,800 tubes of glycerinated vaccine lymph to its public vaccinators, and obtained 82,804 successful vaccinations and revaccinations—an average of a little more than 1½ (1.53) tubes for each successful result. From January to May, inclusive, and in October and November, 63,600 successful results were obtained from 72,940 tubes distributed, an average of 1.14 tubes for each success, or 87.7 per cent. During the first eleven months of the present year, 75,610 tubes have been used with only 25,864 successful results, an average of nearly 3 (2.92) tubes to each success, or 34.2 per cent. During the last four months the figures have been even more unsatisfactory—45,090 tubes and only 12,124 successes, an average of 3.71 tubes each, or less than 27 per cent. Without further detail, it is evident from these gross figures that the producers of glycerinated vaccine have yet much to learn before they can be relied on to furnish a uniformly potent as well as pure lymph.

At a meeting of the Chicago Medical Society, December 21st, Dr. Arthur R. Reynolds addressed the Society on the organization of an association for the prevention of consumption and other forms of tuberculosis, the membership to consist of ordinary and of life members. Methods—the education of public opinion and the stimulation of individual initiative by means of a central bureau for the collection and distribution of information as to modes of diffusion of tuberculosis and measures of prevention; the circulation of pamphlets and leaflets setting forth in plain language the results of scientific investigation of the above points; public lectures by men approved by the Society; addresses at congresses and other public gatherings; cooperation with other societies having for their object the promotion of public health; the cooperation of the public press; the holding of periodical congresses and the issuance of an annual report; the promotion of the establishment on a self-supporting basis of open-air sanatoria for tuberculous patients; the influencing of legislatures, county and city councils, and other public authorities on matters relating to the prevention of tuberculosis. At a future meeting the president of the Society will appoint a committee for the purpose of investigating and carrying out the suggestions of Dr. Reynolds. It is well known that similar societies have been formed in Great Britain and in some of the larger cities of this country, particularly in Philadelphia.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

THE PROTOZOA OF CANCER—SYPHILITIC LESIONS OF THE PERITONEUM — CATHETERIZATION OF THE URETERS AS A THERAPEUTIC RESOURCE — A CASE OF PAROXYSMAL HEMOGLOBINURIA — TRAUMATIC DILATATION OF THE HEART—OPERATIONS WITHIN THE PLEURAL CAVITY — LORENZ'S OPINION OF CALOT'S OPERATION.

AT the Berlin Medical Society, November 2d, JURGENS read a paper on "Protozoa of Carcinoma." He said that the previous investigations of this subject had usually failed to give practical results because they did not show the very beginning of the invasion of the cells. He had the good fortune to avoid this failure in an autopsy made upon a man aged thirty-four years, whose larger bronchi were compressed with carcinoma so that the secretions of the mucous membrane were prevented from escaping. In these occluded bronchi he found the pathogenic micro-organisms of carcinoma in all stages of growth. First, there were large spindle-shaped bodies filled with minute spores. The latter were free, had ameboid movements, and penetrated in part into the epithelial cells while in part they remained between the cells. Those spores which penetrated into the cells grew until they distended the cells. Secondly, there were granular cells with distinct cell-membranes of crescent- or sickle-shape. Third, there were cells, much increased in size, whose contents were markedly granular and whose nuclei contained nucleoli. Fourth, there were double

cells produced by conjugation in which there were two nuclei and a mild degree of granulation. Jurgens considered that the micro-organisms belonged to the gregarines.

At the session of November 9th, PICK showed a preparation from an autopsy which he had made upon a woman aged fifty-six who died from syphilis of the liver and kidneys with ascites and edema. There was amyloid degeneration of the spleen and kidneys, and what is more remarkable, of the genital organs. Moreover the peritoneum exhibited little tubercles with depressed fatty-degenerated centers. Similar syphilitic tubercles were found upon the heart. This is a condition of the greatest rarity, and it is worth noticing that the patient had been treated with mercury, and the tertiary lesions could not, therefore, have been due to its use, a claim which has been advanced by some writers.

CASPER spoke of the "Therapeutic Results Which Follow Catheterization of the Ureters." He mentioned three cases. A man aged forty was sick for four weeks with marked pain and scanty urine. The bladder was empty. When Casper saw the patient no water had been passed for thirty hours. The pulse was good, there was no fever, and no vomiting. There was no tenderness in the right loin. The rectal examination was negative. A catheter was passed into the right ureter a distance of about 5 cm. (2 inches). An obstruction, due perhaps to a stone, prevented its further passage. Fifty grams (1.5 ounces) of warm oil was injected into the ureter. Twenty minutes later the patient passed urine voluntarily, and from that time on micturition was normal. One week afterward, by means of the cystoscope, a small stone (oxalate) was found in the bladder and was crushed. The second patient was a woman aged twenty-eight who suffered after her confinement from pain in the right side. The urine was purulent, and there was a tumor in the right lumbar region. The pelvis of the right kidney was washed out by means of a solution of silver nitrate, 1–1000, and the urine was much improved. The third patient was a man aged thirty-four years who suffered from pains in the right side of the abdomen with chills and fever. There was a large movable tumor in the right lumbar region and catheterization of the right ureter produced purulent urine. The renal pelvis was washed out as in the previous case but the symptoms were not improved, therefore, Casper left the ureteral catheter in position for seventy-two hours, during which time a great amount of almost pure pus was evacuated. After this the condition of the patient gradually improved and at the time of the report the urine was entirely clear. Casper advocated catheterization of the ureter in pyelonephritis as being more satisfactory than nephrotomy, and scorned the idea that reflex anuria is set up by this treatment.

In the discussion of this paper ISRAEL said that nephrotomy was capable of saving a patient who was already profoundly uremic. Catheterization of the ureters could scarcely be expected to succeed under such circumstances. He stoutly maintained the possibility of a reflex anuria and cited the instance of a woman in whom it had several times been produced in periods varying from two to six days, owing to the presence of stone in one ureter. As soon as the stone was loosened or removed the urine began to flow from the opposite ureter as was demonstrated by the cystoscope.

At the session of November 23d, FRANK described "A Case of Paroxysmal Hemoglobinuria." The patient was a woman aged twenty-six years who passed for several years urine containing more or less blood. There was no pain nor any other symptom excepting anemia. All the organs were apparently normal. Both kidneys were palpable, but were not enlarged. With a cystoscope it was easy to make out that bloody urine came from time to time from both ureters. The mixed product was about the color of port wine. Microscopically, one or two red blood-cells were found in ten or twelve fields of the microscope as well as a few epithelial cells and leucocytes and an occasional small cast. The suspicion of hemoglobinuria was verified by the spectroscopic examination. The origin of the trouble was made out with difficulty. Syphilis and malaria were out of the question, and there was no history of poisoning. The sole cause for the trouble was apparently the fact that three years previously the patient had been obliged to work for hours at a time in cold cellars, and she thought that attacks of hemoglobinuria had followed especial exposure to the cold. A test was made one morning in the following way: Having passed urine which was perfectly free from blood, she walked about in her stocking-feet for fifteen minutes in a cold room, and passed urine again. The second specimen was bloody and the diagnosis of paroxysmal hemoglobinuria was confirmed.

STEINER mentioned the case of a man aged thirty-three years whose urine by day was normal, while that passed between 1 and 9 A.M. contained a large amount of albumin, casts, and hemoglobin. This symptom had nothing to do with sleep since when he remained awake at night he passed bloody urine, and if he slept by day the urine remained clear. Numerous examinations failed to demonstrate the presence of animal parasites or germs. The diagnosis remained absolutely obscure.

SENATOR said that various remedies, such as iodid of potassium, quinin, and amyl nitrite, have been advocated as cures of hemoglobinuria, but he had never convinced himself that they were of real value. The sole therapeutic resources seemed to be to protect the individual from cold and to look after his nourishment.

LENNHOFF showed as an instance of traumatic dilatation of the heart a boy aged nineteen years, whose health was good until last August. At that time he was helping to lift a cart, when the horse shied and pinched him between the cart and a lamp-post. He was immediately seized with palpitation and shortness of breath which continued up to the time of report. Whenever he made the slightest exertion, as in stooping, running, or lifting anything, he became extremely cyanotic, with cold hands and feet. The heart dulness as made out by percussion, extended from the left anterior axillary line three-fingers, breadth to the right of the sternum. The impulse of the apex to sight and touch was widely spread out. There were no murmurs. His pulse was irregular and of medium

strength. The diagnosis was that of acute traumatic dilatation of the heart.

MEISSNER spoke of the importance in such cases of recognizing the exact position of the ventricular septum. He said this could be determined by measuring the temperature of the skin. The difference of temperature over the two sides of the heart is considerable. It may reach two or three degrees Celsius (3.6° to 5.4° F.). In cases of dilatation of the heart by determining which ventricle has suffered, we may learn whether hypertrophy or dilatation has taken place.

SENATOR suggested that in the case before them there may have been a hemorrhage into the pericardial sac.

At the Imperial Royal Society of Physicians in Vienna, November 18th, HABART exhibited three soldiers in each of whom a free opening of the pleural cavity had preserved life. The first patient, with suicidal intent, had shot himself in the head four times, had cut his wrist-joint, and stabbed himself in the region of the heart. The last wound was the most serious since it opened the pericardial and left pleural cavities, and tore the lower lobe of the left lung. Habart resected the fifth rib, surrounded the heart with sterile gauze, removed a pint and a half of blood from the pleural cavity, and introduced a layer of gauze between the heart and lungs, and between the heart and the diaphragm. The gauze was left in position until danger from hemorrhage was passed. Recovery was perfect. The second patient was stabbed in a drunken brawl, and as some time had elapsed before operation, both blood and pus were found in the pleural cavity after the sixth and seventh rib had been resected. The cavity was wiped out with sterile gauze and drained with iodoform gauze. This patient recovered with a fistula. The third patient suffered from a streptococcic pleuropneumonia, and was much reduced by chills and high fever. Suspecting a gangrenous focus Habart made a wide opening into the pleural cavity, stripped the exudate from the lung, and scraped out the underlying gangrenous focus. Recovery was perfect.

LORENZ described the results in his hands of Calot's forcible reduction of tubercular deformity of the spine. In order to do away with the great number of assistants required by Calot (three at the head and two at the feet) Lorenz put the child in an extension apparatus, and by means of a screw and pad he exerted slow pressure upon the deformity. Nevertheless, this procedure, just as Calot's method of treatment, was followed by severe paralytic symptoms of the lower extremities, bladder, and rectum, which could only be overcome by the most careful treatment by physicians and nurses for several months. Anatomicaliy, the improvement seemed to be due to circulatory changes which followed the forced extension of the spine. There was no healing in the sense that the gap between the bones became filled up by new bone. It would be unreasonable to expect this, considering the tubercular condition of the vertebræ, and radiographs showed that no such new growth of bone takes place. On this account the deformity usually recurred, and Calot's method of treatment, according to Lorenz, is only indicated in cases of paralysis of the lower extremities which cannot be treated in any other way. Historically, it is an interesting point that Calot is not the discoverer of this method of treatment, but that it was shown to him by a layman, a manufacturer or orthopedic apparatus in Lens, a man named Crud.

SOCIETY PROCEEDINGS.

THE SANITARY CLUB OF BUFFALO.

A Stated Meeting, Held at Buffalo, December 14, 1898.

HENRY R. HOPKINS, M.D., President, in the Chair.

THE President stated that the object of the meeting was the consideration of the sanitation of camps of instruction but, as several of the participants had not understood this limitation, discussion was called for also on camps of mobilization. A circular letter had been sent to governors of States, general military officers and editors of medical journals requesting an expression of opinion as to the advisability of establishing permanent camps of instruction by the Government, each to be fully equipped from a sanitary standpoint and to be occupied as needed. Of a large number of replies, all but two favored such a proposition. Surgeon-General Sternberg asked to be excused from replying definitely, on account of the lack of time to give the matter thought. Brigadier-General H. C. Merriam, headquarters of the Department of California, expressed the opinion that "four such camps ready for occupation in April, would have saved much money and life." Major-General William Montrose Graham, headquarters of the Second Army Corps at Camp Meade, said that "as a rule, camps of State troops allow too much comfort." He ascribed much of the recent suffering in the United States camps to the fact that the troops were not accustomed to hardships and to too great crowding. He expressed gratification that the public was taking an interest in the health of the soldiers.

DR. HOPKINS called attention to the greater responsibility devolving upon the medical officers in the late war as compared with the Civil War. In the latter, we had opinions as to the communicability of typhoid, diphtheria, and dysentery; at present, the work of bacteriologists has replaced these opinions with accurate knowledge. The disregard of the life of the common soldier which had characterized campaigns of the past, especially in Europe, had in it an element of heathenism. "In America, the common soldier is known to be a member of the nobility, the teamster and the company cook are members of the royal family and it is exceedingly important that this royal family of the people should be protected when it takes its life in hand for the defense of the country."

LIEUTENANT PETER C. HARRIS, Quartermaster of the Thirteenth United States Infantry, read a paper on

THE CAMP OF INSTRUCTION.

He emphasized the value of camps of instruction both for the Regular Army and the National Guard and said that they are even more necessary for the instruction of officers than of enlisted men. The raw recruit cannot

keep up with the trained soldier, largely because development of the heart and blood-vessels is deficient. Up to 1894, recruits were drilled for four months at recruiting stations before even being sent to regiments and, after arrival at army posts, two to four-months' additional drill were usually necessary before the recruit could be made available for the routine life of the soldier. For many reasons, this plan, which had been superseded, was the wisest course. The National Guard can scarcely be compared with the volunteer forces of Europe. In England, volunteers can be called out for from two to six weeks annually. In Canada, at least twelve-days' training are given in camp. Continental reserves and other troops that might be compared to the National Guard receive two to four-months' drill, annually. With certain modifications, he thought that the Austrian Landwehr might be taken as a model for the National Guard. Members of the National Guard should have, say, four-weeks' camp instruction during the summer and fall and the members from small towns would need more instruction than those who could have regimental drill at home. In States having only a few regiments it might be well to call out the entire Guard every two years, in order that all troops should have the experience of drilling in considerable numbers and of affording experience for officers. The Guard should be more liberally provided for by Congress and camps should be selected by the ranking surgeon, an officer from line headquarters, and a representative of the quartermaster's department. Speaking of the lessons to be derived from the late war, he said that at Tampa the rations were, at first, issued for thirty days, but this was found inconvenient for the regimental quartermasters, especially as the regimental wagon-trains were cut down below the theoretic minimum. Every regimental quartermaster condemned the attempt to generalize the wagon service and declared in favor of a sufficient regimental wagon-train. By means of diagrams, the various arrangements of regimental camps were shown. As a rule, the nearly square rectangle was preferred, company kitchens on one flank, company and regimental officers on the other, with the sinks of the men and the officers, respectively, on the extreme limits of the flanks, 150 or 200 feet removed from the nearest tents. On some grounds, the slope made it preferable to arrange the camp with four rows of company tents, all facing the same way. This, however, made a very long camp—about 1000 feet. The minimum allowance for small wall tents is six men to a tent. At present, the Thirteenth Regiment (now at Buffalo) has an allowance of a tent for each three men. (The men are quartered in barracks, however.) In the case of a permanent camp, it is well to leave enough space between tents so that they may be shifted every few days without disarranging the plan of company streets. At Tampa the men remained for a week or two in good health and then fever began to develop. The surgeon ascribed this, in part, to the closeness of the tents but it was impossible to change them, on account of the limited amount of space at their disposal. With conic wall tents, about 17 feet in diameter, the minimum allowance is one to seventeen men and, to allow sufficient space, only ten men should be put into one tent. The soil at Tampa was soon polluted and the sinks became offensive as it was impossible to dig them deep enough in the sand.

C. E. P. BABCOCK, Assistant City Engineer of Buffalo and late Major of the Sixty-fifth New York Volunteers, presented a paper on

CAMP SEWERS.

The expense of draining a camp with tile is 33–36 cents per foot for 6-inch pipe; 35–40 cents for 9-inch pipe; 43–50 cents for 12-inch pipe. With the regimental camp arranged nearly in a square, the total cost would be about $1000. To prevent the necessity of digging up the company streets, he thought it better to lay the tile along one flank of the camp, beginning with 6-inch pipe at the officers' sink and ending with 12-inch pipe at a discharge tank two or three hundred feet from the other end of the camp. If wooden tent-floors were used and the streets graded, rain would take care of itself. Four days would be ample time for sewering a camp and only two days would be needed if the regiment included a few members who could lay tile and if the quartermaster's department would issue picks and shovels.

MR. L. H. KNAPP of Buffalo, Assistant Superintendent of the Buffalo Bureau of Water Supply, read a paper on

CAMP WATER-SUPPLY.

The conveyance of water to a camp is rather a matter of convenience than of sanitary necessity. If water is taken from a stream, a dam may be built or an intake tank may be dug. If the soil is porous, it would be better to dig a well near the bank of the stream, to allow filtration. Fords, watering-places and swimming-holes should be located below the water source. Wrought-iron pipe, with screw-joints, could be transported and put into position at any site that would be occupied for more than a few days. The pipe should be buried five feet, and this work, and the placing of a portable pump should not occupy more than twenty-four hours. Thirty-feet pressure would be required to give a fair flow at all taps at once and more than this would allow unnecessary waste. Seventeen taps should be provided, one at each company street, one each at regimental headquarters, officers' mess, guard tents and stable and quartermaster's department. When neither streams nor springs were available, driven wells could be made. Usually, steam would be most convenient for pumping water but, near a large city, electric motors could be used. If windmills were relied upon, a large reservoir would be necessary on account of the uncertainty of power. With a steam-pump, drawing water from a spring or stream near camp, the plant would cost about $4000 and the cost of operation would be about ten dollars a day.

EDWARD CLARK, M.D., of Buffalo then read a paper on

GARBAGE AND SEWAGE DISPOSAL.

He ascribed the terrible death-rate in camps during the Middle Ages to unsanitary measures, particularly the accumulation of excreta. At present, the discipline of the regular army is such that the health of the soldier is

better looked after than that of the average civilian. He pointed out the prime importance of a pure water-supply, even sewage being inadequate without it, as rain cannot be depended upon to flush the drains. The sewers should not discharge into streams but onto the soil, the European system of sewage farms having been proved to be practically innocuous. The burial of garbage, as advised by the Surgeon-General, is a dangerous method on account of the liability of development of a malarial focus. The ideal method of disposing of garbage is cremation. An estimate of expense is impossible because the present plants are in the hands of private contractors who will not give out the actual cost of management.

MR. H. C. GARDNER of Buffalo discussed in his paper the subject of

CAMP WALKS AND STREETS.

He considered concrete much superior to asphalt and also cheaper if a supply of sand and gravel were at hand upon which the regiment could draw without other cost than that of labor. Under these circumstances, it would cost about ten or fifteen cents a square foot. The elongated camp would comprise about 219,705 feet; the condensed camp 141,466 feet. By laying concrete all over the area covered by tents, thorough flushing of the camp would be possible.

M. A. VEEDER of Lyons, N. Y., then read a paper on

THE RELATIVE IMPORTANCE OF FLIES AND WATER-SUPPLY IN SPREADING DISEASE.

From the practical sanitary standpoint, camp diseases can be divided into intestinal and malarial, the former including typhoid and yellow-fever, dysentery and cholera. In camps, malaria is spread almost entirely by water, intestinal diseases almost entirely by flies. The failure of measures directed to the water-supply in the Cuban campaign, he ascribed to this fact. Even now, typhoid is rife in Manila and Honolulu. In the recent campaign in Fashoda, although the climate was especially dry and general conditions as to water-supply favorable, typhoid was the greatest scourge of the army. An epidemic of dysentery was cited, taken in hand when forty cases had developed with ten deaths, the disease having spread from house to house by short leaps. After adopting measures to prevent access of flies, not a single new case developed. The progress of a camp disease by short leaps, should suggest that it was borne by flies while a general dissemination should call attention to the water-supply. Fly-borne epidemics also follow the direction of the wind. In large cities, with general water-supplies, free drainage and absence of privy-vaults, water is the great carrier of disease, whereas, camps, like small villages, have most to fear from flies. For this reason, typhoid is more or less prevalent at all seasons in the cities, usually only in the dry and sultry weather of early autumn in small villages.

He strongly condemned the practice of burying typhoid excrement, citing a series of little epidemics that could be traced to a nurse who had followed this method. After the nurse had herself succumbed to the disease, the epidemics ceased. Typhoid bacilli will penetrate to the surface of the soil, if buried. Disinfection is necessary and, both on account of its color, its permanence after evaporation and efficiency, copper sulphate is to be preferred. In camp, on account of the practical impossibility of diagnosing incipient typhoid, all excreta should be disinfected. The coloration of the ground would show just how far the disinfection had been successful. Volatile disinfectants are not so serviceable as non-volatile. The Government plan of furnishing large, portable, water-tight tanks for use as sinks, is good in theory but scarcely practical. The Indians avoid sickness by frequently moving their camps. Burial of feces could be relied upon to afford protection against infection by flies for a few hours. Boiling would render water safe to drink and, even against malaria, this precaution would afford almost complete immunity as the conveyance of this disease by mosquitoes has been greatly exaggerated. Not only knowledge but discipline is necessary to protect the soldier, and sanitation under the guns of the enemy is a difficult matter.

CAPTAIN NORTON in discussion said that camps should be pitched so as to drain toward the flank, while most that he had seen had been arranged so that the drainage swept from one end to the other. The greatest bulk of sewage was from the sinks, baths, kitchens and hydrants of company streets. Under proper conditions the discharge of sewage into streams is advisable, though not the ideal method.

DR. GREENE in speaking of water-supply gave the preference to spring water, then in order that from deep wells, rivers and lakes, and shallow wells. For permanent camps a filter might be necessary and the only practical method is sand-filtration. He told of visiting a camp during the late war, in which two regimental camps were pitched so that the ground sloped toward their common well.

MAJOR SMITH of the Sixty-fifth New York Volunteers, mentioned Peekskill, N. Y., Mt. Gretna, Pa., and Seagirt, N. J., as ideal camps of instruction. He made a sharp distinction between such camps of instruction and the camps of mobilization about which so much criticism has been offered. Under the circumstances of occupancy, it had been impossible to prevent sickness in the camps, although such matters as policing, disposal of garbage, etc., were within the jurisdiction of the medical officers. (Major Smith, although a surgeon was a line officer in the volunteer army.) Burning garbage would be impossible in the face of the enemy and, at Camp Alger, large heaps of garbage accumulated that were too moist to burn, crematories not being supplied. Burial was therefore necessary. In a camp that had been occupied several months, the disposal of garbage would best be effected by contracting for its removal just as in the case of cities. At Camp Black, the farmers gladly removed the garbage on account of its value as a fertilizer. For the same reason, the owner of the land at Camp Alger would not allow garbage to be removed unless he were paid for it and this deterred those who would willingly have removed it if it had been given to them. Even the removal of bones and fat was stopped. The health of the camp even suffered

because the kitchen attendants were bribed with liquor by some one who wished to get the perquisites of garbage. The sinks, as they became full, were covered over and so much ground was occupied in this way that there was serious danger of a horse plunging into the soft spots and breaking a leg. A middle course had to be adopted regarding sinks. If too near, flies became a source of danger, if put too far away, men, especially with beginning diarrhea would defecate on the way to the sinks. The flies seemed to keep track of mess calls and would swarm from the sinks to mess at the meal times. Unless a camp were pitched like a saddle on a ridge of ground, he did not approve the placing of sinks on both flanks, on account of the double danger of infection in heavy rains. In one instance, he had observed a stream of rain water coursing from the officers' sink directly through one of the tents. Instead of 200 or 300 cases of typhoid in a regiment, as was the case with the Sixty-fifth New York Volunteers (from Buffalo) he felt that practically every one would have suffered if the camp had been occupied a few weeks longer. Disinfectants were not supplied till July and even then they were not to be had regularly.

MAJOR BRIGGS, Surgeon of the Sixty-fifth New York Volunteers, cited the Crimean War, in which the Russians lost 30,000 men from wounds, and 600,000 from sickness. During the Civil War, 104,000 succumbed to wounds, 186,000 to disease. The only war in history in which the number of deaths from wounds exceeded that from disease was the Franco-Prussian, which was short and sharp, fought in a salubrious climate and in which all possible sanitary precautions were taken. Alluding to his own experience as Health Physician when wells were in vogue in Buffalo and to some thoroughly studied epidemics of typhoid, as that at Plymouth, he said that most of the surgeons went into service impressed with the idea that typhoid was a water-borne disease, and that the consideration of flies as a practical factor in etiology had not been thought of till after the epidemics in camp were in progress. The scientific consideration of the water-supply of Camp Alger was like the subject of ophiology in Ireland—there wasn't any. The wells sunk by contractors were put wherever the digging was easiest. The water supplied to the Sixty-fifth Regiment was clear, cold, and odorless, but the drainage of the camp was toward it. A week after camp had been moved and after a hard rain for three or four days, although nothing that could be picked up or swept up had been left behind, there was still a stench from the deserted ground, so thoroughly had the soil been fouled. In the Sixty-fifth Regiment and in some others, the epidemics of typhoid seemed to strike by companies and, for two or three weeks other companies just across a narrow street, having the same food, water, air, and otherwise in the same circumstances, would be free from disease for two or three weeks. (This was explained by Major Smith on the basis of separate milk contracts for the various companies.) The most unsanitary regiment in camp was the Third Virginia. In spite of all discipline, their sinks would overflow in all directions, yet they had the least sickness. The most sanitary regiment was the First Connecticut, and this arrived from service in Maine without a sick man about the first of August, when it had the experience of the regiments previously in camp to serve as a warning. A wholesome spot was selected for their camp and their surgeons adopted every possible sanitary precaution, yet before the Sixty-fifth Regiment left for Buffalo, and within a few days afterward (about the first of September) two train loads of sick were sent home from that regiment. Major Briggs characterized the practice march as an invention of the devil. In a hot, infected country, men would drink and bathe in every water hole that they could find, without regard to its unwholesomeness.

W. W. POTTER, Major and Surgeon, United States Volunteers, reminded the audience of the threefold division of camps, with reference to military hygiene: the permanent camp of instruction, the camp of mobilization, and the bivouac. One of the greatest sources of danger for the soldier is the camp. The economic value of the soldier to the government makes it necessary that the first should be perfect in every detail at whatever direct cost. Eight or ten months are spent in teaching the recruit to keep clean and obey orders but, on a practice march, no amount of discipline will keep the soldiers from drinking where they ought not to. The trained soldier will supply himself with cold coffee or something of the sort in his canteen and will not be so likely to drink impure water as the volunteer. It should be a matter of local pride that the first scientific study of the spread of typhoid infection through excreta was made in Erie County in 1843. The late war was too short to allow great experience to be accumulated. In the 113 days, more men and greater territory were conquered than in a corresponding period in all history. In civil life forty-eight per 1000 die of typhoid, a preventable disease. In August the death-rate for the entire army had reached only forty per 1000.

DR. BENEDICT asked if an estimate could be made of the men in the Sixty-fifth Regiment who were immune to typhoid. In view of the fact that between a sixth and a quarter of the entire regiment had contracted this disease, it would be interesting to know what proportion of those theoretically infectable had failed to contract typhoid.

DR. BRIGGS replied that such statistics were in course of preparation but could not as yet be announced. The figures given of the prevalence of typhoid in the army were somewhat misleading as some of the cases were really of a different nature but all had been grouped together.

MR. WILSON of the Health Department, a veteran of the Civil War, emphasized the influence of the sutler in determining sickness among the soldiers.

REVIEWS.

STUDENTS' HISTOLOGY. A Course of Normal Histology for Students and Practitioners of Medicine. By MAURICE N. MILLER, M.D., late Director of the Department of Normal Histology in the Loomis Laboratory, University of the City of New York. Revised by HERBERT M. WILLIAMS, M.D., Professor of Pathology

and Bacteriology, Medical Department, University of Buffalo. Third Revised Edition. New York: William Wood & Company, 1898.

IN the present edition of this well-known text-book the general plan and arrangement existing in former editions has been preserved, but the subject has been carefully brought up to date, so that a fair presentation of the subject of histology is embodied in the present volume. As an elementary work for the student we know of no better book from which he can obtain all the necessary data for the use of the microscope and for the preparation and examination of normal tissues. All the minor details in microscopical technic are so fully presented that it is a pleasure to the beginner to have before him a book of this nature.

The illustrations are all from pen-drawings by the author and while many are diagrammatic, still they are of much assistance, and are far preferable to some which we have recently observed and which have been directly photographed. On the whole the book is specially commended to all beginners in the study of histology.

HISTOLOGY—NORMAL AND MORBID. By EDWARD K. DUNHAM, PH.B., M.D., Professor of General Pathology, Bacteriology, and Hygiene in the University and Bellevue Hospital Medical College, New York. New York and Philadelphia: Lea Brothers & Co., 1898.

WHEN the rapidity is noted with which new works and revised editions of the older books on this subject have appeared in late years, it is at once significant of an increasing interest in this science and of a demand for reliable books on the subject. The work before us comes under this heading, and, moveover, is unique, in that the histology of diseased processes receives consideration. Part I. is devoted to the normal histology of the various tissues and organs and occupies more than one-half of the volume. The chapter on the cell is especially well handled, and the description of the various processes occurring in karyokinesis is given in a particularly clear and lucid manner so that the average student can grasp the subject without great difficulty. The chapter on the central nervous system receives that care and attention which the recent work in this line demands.

Part II. of the work is devoted to the histology of the morbid processes and the chapters deal successively with degenerations and infiltrations, atrophy, hypertrophy and hyperplasia, metaplasia, structural changes due to and following damage, and tumors. These various subjects are well described and presented in a satisfactory manner.

Part III., and the last part of the work, deals with histologic technic, and we are surprised to find that the author still adheres to the French word *technique*, which is no longer used by the more careful writers. In this part of the book the author has attempted to condense too much information in a few pages, and the result is an unevenness not manifested in the previous chapters. The methods of fixation, hardening, impregnation, embedding, cutting, staining, and mounting are described, also the methods for the examination of urinary sediments, for the preparation of cover-glass smears, for the examination of sputum, and pus, and blood-smears; for the examination of bacteria in cover-glass preparations, and in the hanging drop, all of which procedures are but briefly outlined and more properly belong to works on bacteriology and clinical microscopy.

Throughout the pages are many illustrations, some of which are original while others are borrowed from the very best sources. They all, however, are admirably drawn and produced, and add distinctly to the value of the work. The paper and bookmaking is beyond reproach. The book is worthy of the cordial support of the profession and is creditable alike to author and publishers, and we take much pleasure in commending it not only to students but to teachers as well.

THE PRINCIPLES AND PRACTICE OF MEDICINE. By WILLIAM OSLER, M.D., Professor of Medicine at the Johns Hopkins University. Third edition. New York: D. Appleton & Company, 1898.

THIS, the third edition of this well-known and widely read work has been entirely revised and enlarged. The brilliant author of this splendid treatise justly says that at the present rate of progress in all departments a text-book six years old (the first edition) needs a very thorough revision. This he certainly has given to the third edition, either entirely rewriting or adding as new articles the following subjects: vaccination, beri-beri, the bubonic plague, cerebrospinal fever, pneumonia, Malta fever, yellow fever, dengue, influenza, leprosy, glandular fever, the gonorrheal infections, cancer of the stomach, the gastric neuroses, enteroptosis, the cirrhoses of the liver, jaundice, the diseases of the bile passages, diseases of the pancreas, diseases of the thymus gland, diseases of the spleen, lymphatism, Addison's disease, encephalitis, neurasthenia, erythromelalgia. Other articles show the addition of new material.

The thorough revision which the work has undergone brings the subjects treated up to date in every respect. Not since the appearance of the fine treatise on the "Principles and Practice of Medicine" by Hilton Fagge has England or America produced such a worthy publication. It is no more than just praise to say that Dr. William Osler's text-book is the best book of its kind in the English language, and surpasses in many respects the so-called "systems of medicine" which have appeared in the past few years in such generous profusion.

It is difficult if one were searching to find defects to indicate anything which is wanting in this book yet it seems to the reviewer that some mention should have been made by the author of the presence of the Filatow-Koplik spots on the buccal mucous membrane as an early characteristic sign of measles. The sign is of great importance as it precedes the development of the eruption by at least twenty-four hours, and enables one to isolate a child living in an institution or hospital before the diagnosis of measles would otherwise be made. Thus many epidemics in foundling asylums, hospitals, and other institutions where children are treated may be avoided by examining the mouth for these spots in every suspicious case of coryza.

No praise would be two generous to express the value of this book to students and practitioners, since it supplies all useful knowledge in reference to any subject to which either may refer. We hope that it will periodically receive the same studious revision whenever the progress of medicine demands it.

CLINICAL LECTURES ON MENTAL DISEASES. By THOMAS S. CLOUSTON, M.D., Lecturer on Mental Diseases in the University of Edinburgh. New (fifth) edition. Illustrated. Philadelphia and New York: Lea Brothers & Co., 1898.

THIS text-book, which has passed through so many editions, and in all, despite the contemporaneous publication of innumerable volumes on psychiatry, has maintained its place as a standard work, needs no further notice than the mere mention of its reappearance in an improved form. Dr. Clouston's book has always been recognized as a classic, both for study and for reference.

The author, in avoiding all attempts at an artificial classification of the diseases considered, hits upon a descriptive arrangement which makes the book clinical as well as didactic, simple as well as complete, entertaining as well as instructive. The charming style, so attractive in the previous editions, is not lost in the new one, and, as before, the reader's attention is held through all the chapters, both by the material presented and the manner of its presentation. A set of colored plates has been added and the volume has been made of more convenient size.

NASAL OBSTRUCTION: The Diagnosis of the Various Conditions Causing It and Their Treatment. By W. J. WALSHAM, M.B., C.M. Aberd., F.R.C.S., Eng., Senior Assistant-Surgeon, Lecturer on Surgery, and Surgeon-in-Charge of the Orthopedic Department, St. Bartholomew's Hospital, etc. New York: William Wood & Co., 1898.

THE author has applied to the diagnosis of the conditions which may give rise to nasal obstruction, the method of proceeding from the manifestations of abnormal condition or of impaired function, as they present themselves to rhinoscopic examination, and thus compose a group of signs and symptoms, to which, finally, a diagnostic label is attached. This method of working from the known to the unknown, from the condition of the parts to the disease which they indicate, has been constantly employed by the author as a teacher of general surgery. It is a reversal of the usual plan of first describing the disease and then discussing how it may be diagnosed from similar affections.

The volume under consideration treats of the subject exhaustively, but the repeated enumeration of facts determined by physical examination produces some confusion. To avoid excessive repetition one is obliged to omit whole passages, to skip about from paragraph to paragraph, at the risk of losing logical connex, in accorddance with the author's instructions. For example, on page 56 one reads: "If the obstruction has been attended by profuse attacks of epistaxis, pass on to section 63, otherwise begin below at section 59."

The chapters on the treatment of the various causes of obstruction are separated from those on diagnosis, somewhat complicating matters, while the description of the operative procedures, and especially of the after-treatment, is too brief. The book may well be of service for occasional reference in a special obscure case, as the entire range of nasal and nasopharyngeal diseases, as well as the affections of the accessory sinuses, have been considered.

A TEXT-BOOK OF MECHANO-THERAPY. By AXEL V. GRAFSTROM, B.Sc., M.D., Late Lieutenant in the Royal Swedish Army; Late House Physician, City Hospital, New York. New York: O. M. Foegri & Co., 1898.

THIS small volume is hardly to be taken seriously by the physician for it is rather elementary and lacking in detail. For nurses and students pursuing practical studies in massage it will prove a useful compend. It is illustrated with eleven pen-and-ink sketches.

THERAPEUTIC HINTS.

For Asthmatic Paroxysms.—

℞ Morphinæ sulphat. . . . gr. ⅛–¼
Strychninæ . . . . gr. $\frac{1}{60}$–$\frac{1}{40}$
Hyoscini hydrobromat. . . gr. $\frac{1}{200}$.
M. Sig. One dose.

Treatment of Acne Rosacea. — JUDASSOHN advises the following program: wash the face at night in very hot water, adding borax or soap if there be much sebaceous secretion. Dry carefully and massage with this ointment, the ichthyol and resorcin being increased according to the toleration of the patient:

℞ Ichthyol . . . . *m.* xvi–lxxx
Resorcin . . . . gr. xvi–xlviii
Lanolin . . . . ʒ vi
Ol. olivæ . . . . ʒ iiss
Aq. dest. . . . q.s.ad. ℥ iss.
M. Sig. External use.

In the morning bathe with water, and if the acne be severe apply one of the following antiseptic washes:

1. ℞ Thymol . . . . . gr. viii
Spiritus . . . . . ℥ ii
Aq. dest. . . . . ʒ iii.
M. Sig. External use.

2. ℞ Hydrargyri chloridi corros. . gr. viii
Spiritus . . . . . ℥ ii
Aq. dest. . . . . ℥ iii.
M. Sig. External use.

For Chapped Hands, Face, etc.—

℞ Salol . . . . . gr. xv
Spiritus . . . . . ʒ i
Glycerini } aa . . . . ℥ ss.
Aq. rosæ }
M. Sig. External use.—*Lutaud.*

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